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ART. I. — *A Paraphrase and Notes on the Epistles of St. Paul to the Galatians, First and Second Corinthians, Romans, and Ephesians ; to which is prefixed an Essay for the Understanding of St. Paul's Epistles, by Consulting St. Paul himself.* By JOHN LOCKE. [Reprinted from the latest English Edition.] Cambridge. Brown, Shattuck, & Co. 1832. 8vo. pp. 455.

WE congratulate the religious community upon a neat American edition of this valuable work. It is one of those standard books which should be in the hands of every one, whether clergyman or layman, who is desirous of understanding a difficult portion of the New Testament Scriptures. Upon the five Epistles of St. Paul to which they relate, the Paraphrase and Notes constitute the best commentary for popular use with which we are conversant ; and without it no library can be considered perfect in its Theological department.

The principal works of Locke, which were published during his life and under his own supervision, were the well known "Letters upon Toleration," the "Essay on the Understanding," upon which his fame essentially rests ; of "Two Treatises on Government," "Some Considerations the Consequences of Lowering the Interest and Raising the Value of Money," "Thoughts concerning Education," and "The Reasonableness of Christianity, as delivered in the Scriptures." These publications may all be comprised within the short period of six years from 1689 to 1695. The controversies, however, which followed the "Essay on

the Understanding," and the "Reasonableness of Christianity," continued till about the year 1700, when Locke retired from public life and applied himself particularly to the study of the Scriptures, to the time of his death in 1704. From the manuscripts which he left, and which contain the fruits of his researches at this period, the work named at the head of this article was first published in 1706, by his executor, Sir Peter King, and by Mr. Anthony Collins. In regard to its genuineness, no doubt, we believe, has ever been expressed, and should there be any existing, the internal evidence is sufficient to set it aside. In short, though the publication was posthumous, yet the work itself has none of those objectionable characteristics, to which posthumous publications are frequently liable. It comes to us prepared for the press by the author's own hand, and there can be little doubt, from the Essay prefixed to it, that he intended it soon for the public eye.

But our estimate, after all, of a book of this character must depend on its own intrinsic merits, and not on the name of its author or the period in which it was written. We cannot better express our approbation of the work than by calling the attention of our readers to the great principles upon which it is framed, and which are clearly set forth in the Essay alluded to.

The obscurity of St. Paul's Epistles has become in a measure proverbial. There are few who will not acknowledge the truth of the Apostle Peter's declaration that in them "*are some things hard to be understood.*" It should be observed, however, that this is true only of the doctrinal portions of the Epistles; — the practical directions at the close of each being for the most part, like the discourses of our Saviour, simple and intelligible.

Locke first considers the causes of this obscurity to an English reader at the present day, and then proceeds to point out the best method of obviating the difficulty.

In the first place we are reminded of a fact which is frequently overlooked or disregarded, that the Epistles of Paul are strictly, as they purport to be, *Letters*, — partaking in some degree of the nature of epistolary writings in general. With the single exception of that addressed to Philemon, they cannot be considered, it is true, as parts of a private correspondence, since they are directed to individuals in

their public capacity or to communities with a public object. But though not private, they have nevertheless much of the character of a *correspondence*, being particularly adapted to the time, place, and circumstances in which they were written, and to the persons to whom they were addressed. They appear sometimes to have been in answer to letters that have been sent and to questions proposed. Of course they are not to be regarded as general circulars intended for all Christians in all times and countries and in every imaginable situation, — but as familiar letters suited particularly to one community and one state of things, and containing allusions to persons and opinions and events with which that community was familiarly acquainted. They are rich, indeed, in general truths that are applicable to all times and to all situations, and they are all upon the subject of our common faith; but they dwell particularly upon the peculiar concerns of the several individuals or communities to whom they were addressed. The First Epistle to the Corinthians, for example, would hardly have been applicable to the Christians at Rome, and the Epistle to the Galatians would not have suited precisely the peculiar state of things at Corinth. Now it is evident that in order to have a clear understanding of any of these Epistles, we must know something of the circumstances to which they have reference, — a knowledge which can be acquired from no other source than the Epistles themselves. This is one cause of the alleged obscurity of St. Paul.

The next source of ambiguity is the language in which they are written. They have come down to us through the medium of a translation from a tongue, in the pure use of which there is great variety and ambiguity. The language of the Epistles, however, is not the pure language of Greece, but a peculiar dialect. "The terms are Greek," says Mr. Locke, "but the idiom or turn of the phrases may be truly said to be Hebrew or Syriac." "Nor is this all; the subject treated of in these Epistles is so wholly new, and the doctrines contained in them so perfectly remote from the notions that mankind were acquainted with, that most of the important terms in it have quite another signification from what they have in other discourses; so that putting all together we may truly say that the New Testament is a book written in a language peculiar to itself."

Another cause of the obscurity of St. Paul is the peculiarity of his style arising from his temper and character and various knowledge. "He was a man," says our author, "of quick thought, warm temper, mighty well versed in the writings of the Old Testament, and full of the doctrine of the New." The plenty and vivacity of his thoughts, united with his ardent zeal for the diffusion of the gospel, render his style abrupt and involved, abounding in long parentheses, and sometimes wandering from the midst of an argument in the track of some new thought which his own words have suggested. The frequent change of the person in whose name he speaks, — sometimes by *I*, meaning himself, sometimes a Christian or Jew, — a similar looseness in the use of the first person plural, the practice of dropping in the objections of others and answering them without any formal notice, the occasional use of the "argumentum ad hominem;" these all add to the ambiguity of the Epistles, and demand the particular attention of the reader.

To these are added two external causes that have increased the original difficulty of understanding the Apostle. The present prevailing division of the Bible into chapters and verses, without reference to the natural divisions of the subject, is peculiarly unfortunate in respect to the Epistles; presenting, as it does, in loose and disjointed fragments, that which is in reality a close and well connected argument. The practice which prevails so extensively at the present day of taking the passages of the Bible as so many distinct aphorisms, and which creates no difficulty in the reading of such a book as the Proverbs of Solomon, is an almost inseparable bar to the thorough understanding of St. Paul's reasoning. Let a modern discourse or letter be printed and used in this way, let it be divided into chapters and subdivided into verses of about equal length, for the simple purpose of *convenient reading*, and the community would exclaim against it as unmeaning and barbarous. And yet, such is the force of early prejudice, these divisions are continued as a consecrated part of the records of our faith; and the reasoning of the Apostle is disturbed by them not only in the middle of an argument, but sometimes in the middle of a single sentence.

The last cause of obscurity which is mentioned by Mr. Locke, is the peculiar technical sense which much of the phraseology of these Epistles has acquired, and which we

are so liable to carry with us to the work of interpretation. The sense which has been given to this phraseology by an established creed, or by a favorite commentator, may be it, is true, the *orthodox sense*, — the opinion of the majority; but it may or may not be the sense of St. Paul. This attachment to a system, and the searching of the Epistles for language to confirm that system, is the surest of all ways to avoid the true interpretation; for our inquiry with this view is not, What says the Scripture? what says St. Paul? but rather, Is the Apostle of our party? did he think and write according to our creed? This, it is evident, is to throw dust in our eyes, in order that we may see more clearly the hidden treasures of truth.

The two simple rules, which are laid down by Locke, and which form the basis of his interpretation, are especially deserving of notice, since they may be applied by every reader of the Epistles for himself.

The first is to read an Epistle *through* at a single sitting, if possible; to observe carefully the “drift and design” of the writer, and to mark the natural divisions of the subject. “If the first reading gave me some light, the second gave me more, and so I persisted on reading constantly the whole Epistle over at once, till I came to have a good general view of the Apostle’s main purpose in writing the Epistle, the chief branches of the discourse wherein he prosecuted it, the arguments he used, and disposition of the whole.”

The second is equally simple and important with the first, viz. to compare together those passages in the same or in different Epistles, which treat of the same subject. The same opinions and circumstances which are obscurely alluded to in one passage, are more clearly brought to view in another; so that, by this comparison of Scripture with Scripture, the Bible is made its own interpreter. It is not a comparison of words which is here intended, — the practice of following a verbal concordance and thus stringing together passages that have nothing in common but a single sound; but rather a bringing together of the same ideas in different forms, that one may more fully elucidate the other.

It is not pretended by Locke that these rules are sufficient to clear up all the obscurities which hang over the Epistles. He modestly speaks of them as helps to the reader, and hopes that they may be found as useful to others as they

have been to himself. We cannot omit the concluding paragraphs of the Essay, which exhibit so forcibly that simplicity, humility, and Christian prudence which remarkably distinguished his character.

"I am far from pretending infallibility, in the sense I have any where given in my paraphrase, or notes : that would be to erect myself into an apostle ; a presumption of the highest nature in any one, that cannot confirm what he says by miracles. I have, for my own information, sought the true meaning, as far as my poor abilities would reach. And I have unbiassedly embraced what, upon a fair inquiry, appeared so to me. This I thought my duty and interest, in a matter of so great concernment to me. If I must believe for myself, it is unavoidable that I must understand for myself. For if I blindly, and with an implicit faith, take the Pope's interpretation of the Sacred Scripture, without examining whether it be Christ's meaning, it is the Pope I believe in, and not in Christ ; it is his authority I rest upon ; it is what he says, I embrace ; for what it is Christ says, I neither know nor concern myself. It is the same thing, when I set up any other man in Christ's place, and make him the authentic interpreter of sacred Scripture to myself. He may possibly understand the sacred Scripture, as right as any man : but I shall do well to examine myself, whether that, which I do not know, nay, which (in the way I take) I can never know, can justify me in making myself his disciple, instead of Jesus Christ's, who of right is alone, and ought to be, my only Lord and Master : and it will be no less sacrilege in me, to substitute to myself any other in his room, to be a prophet to me, than to be my king or priest.

"The same reasons that put me upon doing what I have in these papers done, will exempt me from all suspicion of imposing my interpretation on others. The reasons that led me into the meaning, which prevailed on my mind, are set down with it : as far as they carry light and conviction to any other man's understanding, so far, I hope, my labor may be of some use to him ; beyond the evidence it carries with it, I advise him not to follow mine, nor any man's interpretation. We are all men, liable to errors, and infected with them ; but have this sure way to preserve ourselves, every one, from danger by them, if laying aside sloth, carelessness, prejudice, party, and a reverence of men, we betake ourselves, in earnest, to the study of the way to salvation, in those holy writings, wherein God has revealed it from heaven, and proposed it to the world, seeking our religion, where we are sure it is in truth to be found, comparing spiritual things with spiritual things." pp. xxiii, xxiv.

It is not our intention to enter minutely into the merits of Mr. Locke's criticisms, and it would not be our province to judge of the accuracy of his conclusions. It is enough to say, that he brought to his work a mind deeply imbued with the love of these studies, and well versed in the original languages of the Scriptures. To each Epistle is prefixed a Synopsis, in which are *seen together*, the date of the writing, the situation of the Apostle, and of the church to which it was directed, and a concise view of the main design of the writer. The Epistles are also divided according to the subjects; and before each division is a full account of its contents. The text of King James's version is accompanied with the Paraphrase and critical Notes on the same page.

The 8th of September, 1832,* completed two centuries since the birth of this distinguished man. At the distance of time and place in which we live, it is delightful to reflect upon the influence of his character and writings. It is not as a metaphysician only, but as a theologian, that he stands among the foremost of the worthies of Old England. The same strong good sense, the same philosophical acuteness and accuracy, the same ardent love of truth for the truth's sake, the same manly freedom which marked his researches in intellectual science, are no less remarkable in his theological writings. To no one were the common epithets of "a Christian, a scholar, and a gentleman" more truly applicable than to him. He belonged to no sect in religion or politics. He travelled in a path that led far above these petty distinctions. He was liberal in the true sense of that term. The light from heaven that shone upon his mind was not obscured by the dust of party strife. The character of such a man is the exclusive property of no age, of no nation. He thought and felt and acted, not merely as an Englishman of the seventeenth century, but as a member of that great brotherhood composed of all nations, kindreds, and languages; and the influence of his life and writings which is felt in both hemispheres, will extend through all coming time.

The best biographical account of John Locke which was to be found previously to the appearance of his "Life, with

* Mr. Locke was born August 29, 1632, Old Style, corresponding to September 8, 1632, New Style.

Extracts from his Correspondence, Journals, and Common-Place Books," by Lord King, was that of Le Clerc, which was written about twelve years after Locke's decease and published in the "*Bibliothèque Choisie*," 1716. In Lord King's Life of Locke, "the order of events, and in part also the narrative of Le Clerc has been followed;" but it contains a valuable mass of new materials, and by means of various letters and memorials of Locke, which fell into the hands of Sir Peter King, his kinsman and executor, and which were preserved by the family, Lord King was enabled to impart to the life of the great philosopher much of the interest belonging to autobiography.

We have thought it was not going far out of our way to say thus much of this work, which gives us more acquaintance with one of the greatest and best men of any age, than we can acquire from any other source. We say, within bounds, one of the greatest men of any age; for he was far in advance of his own age in the philosophy of mind, in his notions of well regulated civil liberty, and of religious toleration, which are far from being thoroughly understood to this day: and we may safely say one of the best men of any age; for there is nothing good in humanity with which he did not sympathize; and though his reach was wider in the region of intellect, of morals, and of religion, than often falls to the lot of an individual, he was as far from presumption and dogmatism in forcing his opinions or theories, as he was from timidity in avowing them. His own letters and those of his correspondents, show the gentleness, simplicity, and purity of his character, with which careful self-examination had much to do. In his earlier years, while he was Secretary to Sir Walter Vane, Envoy to the Elector of Brandenburg, his private letters concerning ceremonials, manners, customs, learning, &c., show a remarkable turn for observation in many things which a man of such a philosophic mind might be supposed to overlook; and prove him to have belonged much more to the school of Democritus, than to that of Heraclitus. Indeed no careful reader of Locke's writings can fail to notice his happy turn for illustration, not miscalled wit; combining in strong pictures those objects in which there is the fitting amount of congruity or resemblance. We cannot but smile when we look back to the sapient criticism of youth in by-gone times, upon Locke's

style, as dry, hard, or bungling ; for though it is at times a little too homely, or too colloquial, or too coarse, it is natural and rich, and usually clear and expressive ; and the peculiarities which displease the student trained in the present age, are such as mark in general the period in which the author wrote.

ART. II. — *The Sylva Americana, or a Description of the Forest Trees indigenous to the United States, practically and botanically considered. Illustrated by more than One Hundred Engravings.* By D. J. BROWNE. Boston. William Hyde & Co. 1832. 8vo. pp. 408.

WE are much pleased to see a work of this kind issuing from the American press, for we know of few things in agriculture or rural economy to which it seems more important that the attention of our farmers and landholders should be called, than the state of our forests, rapidly wasting under the unsparing and uncalculating demands made upon them, so that in many places the best varieties of timber are become scarce and almost exhausted, which renders it necessary to seek supplies from continually more and more distant places. These in their turn will probably be reduced to the same state of destitution ; and unless some new system be adopted to prevent this progressive destruction, and to repair by the labors of the spade those of the axe, the future generations in the Atlantic States will have ample reason to regret the improvidence of their ancestors.

Some compendious treatise has been wanted to place within the reach of ordinary cultivators a knowledge of the contents of our forests, suited to the various purposes of the arts, and of their respective properties and comparative value ; something less universal and far less expensive than such works as that of Michaux, and embodying with the description such practical precepts, as may enable those who are desirous of attending to the subject, to apply their knowledge to use. To afford this knowledge and these precepts is the first step towards the introduction of a better system, and for repairing the havoc already committed. The next step will be to procure attention to a better system on the part of cultivators ; and this would be a worthy object, among others,

of our agricultural societies and those public-spirited individuals, who pursue farming more for the public good than for their own private or immediate emolument, and who have usually the judgment to perceive the future wants of the country, and the means to set the example of providing for them.

The work before us seems intended to supply the want we have just mentioned. It consists of a treatise on Vegetable Physiology, and a description of the different Forest Trees of the United States, embracing their general localities and soils, and the uses to which they are applied in the arts; the description in almost every instance being accompanied with an engraving representing the fruit and leaf of the kind of tree under consideration. Lastly follows a treatise on Arboriculture, succeeded by an Appendix containing a Glossary and an Index.

The treatise on Vegetable Physiology is sensible and well written, embracing for the most part the best views that have been taken on the various questions included in it. It does not examine the whole subject, but judiciously confines its explanations to those portions of it which relate to the organization, life, growth, and decay of trees, without adverting particularly to the modifications which the principles and organs concerned in these possess in other classes of vegetables; and it rather gives a clear and concise summary of our present knowledge of these questions, than an elaborate discussion or illustration of them. We have noticed two or three statements of doctrine, which we have indeed seen elsewhere, to which we cannot assent, and on which as they occur we shall offer a few remarks.

Thorns, it is stated, are stunted branches, because they may in many cases be converted into branches by removal to a richer soil and cultivation. The fault of this argument is, that it would prove too much if applied in all cases; since it would prove that the stamens and pistils of flowers are but stunted and imperfect petals; for it is well known, that, in several varieties of flowers, the pistils and stamens may by cultivation be changed into petals, thus forming what are called double flowers. This even takes place some times, though but rarely, in plants growing in their natural site. Yet the pistils and stamens are undoubtedly essential parts of plants, and the conversion

of them into petals is the production of a monster, the evidence of forced and unnatural growth and nourishment. In our view, in like manner, the thorns of trees that usually have them in their natural situations and when in a healthy and flourishing condition, if not essential parts of the tree, are yet natural and characteristic parts, fitting them for some peculiar use, or answering some peculiar end in their economy, though we may not be able always to say what it is. The change of them into branches by transplantation, more abundant nourishment, and cultivation, seems akin to the change of stamens and pistils into petals, and the product is in part an artificial instead of a natural being.

In speaking of the cause of the ascent of sap in trees, the author, mentioning briefly the various causes assigned by different writers, such as "the agitation of the winds, the form of the vessels, the action of heat, the pressure of certain plates, called silver grain in the oak," dismisses the subject with a confession, that they do not appear to him adequate causes. They do not appear so to us; any merely mechanical cause or causes seem insufficient for the explanation of so important a process; and the authors of theories of this kind appear to forget that they are treating of the functions of a thing possessing life, and of course regulated by the vital properties peculiar to the thing, and dependent upon those functions. Mr. Browne seems to have overlooked Saussure's theory founded upon this very circumstance, and the only supposition at all adequate to account for the effect. This theory is, that in consequence of a peculiar irritability belonging to vegetable life, in the sap vessels of any plant, they receive and transmit the sap by alternate dilatation and contraction of their fibres in successive portions. Of this alternate dilatation and contraction we have no positive evidence; but it seems altogether probable, that the sap is transmitted by agency of some kind dependent upon the vital irritability of the plant, like the absorption and transmission of fluids through the lacteals and lymphatics of the animal system, of the manner of action of which we indeed know little more.

The author states (page 32), in speaking of the processes of absorption and transpiration performed by the leaves, that by the liberation of oxygen during the day, the purity of the atmosphere is preserved against the deteriora-

tion to which it is uniformly exposed by animal respiration, combustion, and mineral absorption. He apparently forgets what he immediately goes on to state, that the leaves during the night absorb oxygen and liberate nitrogen and carbonic acid gas ; thus nearly reversing their work during the day, by which "the purity of the atmosphere is so balanced within the twenty-four hours, as to be fitted for all the purposes of animal and vegetable economy." This "balancing" seems to destroy very much the supposed purifying action of plants on the atmosphere just before stated, and betrays a want of correct reasoning ; since, unless he can show, which he does not, either that plants absorb less oxygen in the night than they liberate in the day, and liberate less carbonic acid and nitrogen in the former than they absorb carbonic acid in the latter, or that less oxygen is consumed by other agents in the night than during the day, we do not see how he will make out, that the air is better for the performance of the leaves. We have a confused recollection of having somewhere seen an account of some experiments, undertaken, as we think, with a view to determine these relative quantities, but do not recollect the results, if any were obtained that might be depended upon ; neither do we now know where to look for them ; the want of this knowledge does not however invalidate our strictures upon the text of our author.

There is also a want of correct reasoning where our author treats of what has been called "equivocal generation," of which he gives what he is pleased to term a confutation, but which seems to us to be of no great force. He confounds this doctrine with the skeptical doctrine of Chance, though the former admits of a Great First Cause, or Supreme Being, while the latter denies it. The production of the former may be in consequence of the laws of that Supreme Being ; the productions of the latter are altogether the formations of accident from the first beginning to the completion and through the whole duration of being, as well as in the end. To be sure the doctrine of equivocal generation, as we view it, may not be precisely the doctrine of the ancients ; but we should think it the only one likely to be maintained at this day, unless by professed or absolute Atheists. In our understanding of the doctrine, it is this ; that in conformity to certain general laws imposed upon matter, certain combinations

of particles under certain circumstances may, without the intervention of seeds, produce certain forms of vegetable or perhaps animal life, capable afterwards of reproducing themselves according to the laws of their kinds. This amounts in fact to no more than a subsequent or supplementary creation, to supply the partial or universal destruction or destitution of some of the forms of life; it is no more of a miracle than the first creation, and not much harder to conceive of, than to explain why, when a growth of primeval oak is cut down and burnt over, it should be followed, as is often the case, by a growth of red cherry, springing up simultaneously and thickly over the whole space. Certainly the doctrine is not more difficult to be comprehended than the supposition sometimes advanced, that the earth was stocked at the creation with the seeds of all those kinds, that thus succeed each other, biding without decay till their appointed time and turn. The change of stamens and pistils into petals in consequence of what may really be considered the application of the circumstances of cultivation, is a somewhat similar instance of the effects of a combination of materials under the action of primitive laws. We are not, however, particularly the advocates of this doctrine, nor is it within our limits or our design to enter into a discussion of it; but there are many facts in Natural History, and many arguments to be drawn from them, that, were they skilfully urged, would require something more by way of confutation, than the loose declamatory reasoning before us. The simple truth is, that there are many things in what we call the processes of nature, which we do not understand and probably cannot, for want of suitable faculties, as well as many not now understood, but which we may yet penetrate. In fact many of what are called leading principles in some of our theories, are but an indirect confession of ignorance veiled under the assumption of knowledge.

The doctrine of "*omnia ab ovo*," (which, by the way, was maintained long before the time of "the great Harvey,") even if a truth consecutive on the confutation of the doctrine of equivocal generation, though it can only be so by a somewhat latitudinarian definition of *an egg*, rests on the assumption, that since the era to which we assign the creation of the earth and the various forms of life that dwell upon it, the action of the Great First Cause, that then changed non-

entity into being, or gave their properties and powers of combination to the inefficient atoms of Chaos, ceased to exert its creative energy upon the site of its new works, otherwise than through the reproductive power assigned to them; a thing far more easily asserted or denied than proved or disproved. Man may argue or speculate about it, but has no knowledge, strictly speaking, to warrant a fixed belief on either side. One thing indeed his researches may lead him to consider as established, namely, that in the economy of God's works there is no waste; that where, from the combination of circumstances, there takes place an accumulation of matter capable of supporting life in any of its countless forms, there life will be found to consume it; whether provided before hand for the occurrence of such a case, or springing out of its occurrence by the operation of other laws coeval with those in consequence of which it occurred, is the very point in question, not easily to be solved, though many have fancied that they have found its solution. That chance in the self-styled philosophical sense of the word has any thing to do with it, we deny altogether.

On the subject of the food of plants, also, we cannot altogether admit the conclusion adopted by our author, which is, "that all vegetables receive their principal nourishment from oily particles incorporated with water by means of gases, vegetable extracts, salts, earths, and manures." Undoubtedly the principles that enter into the composition of oils likewise enter into the composition of vegetables, and the former by decomposition may afford the means of nourishment to the latter; but it by no means follows that oil affords the principal nourishment or that it is necessary for any nourishment. These principles single or in combination are found in great abundance in nature, entering into all the forms of animal and vegetable life, even into some of the various states in which minerals are found, and into the constitution of the atmosphere and of water. By the decomposition of these, they may be at least fully as readily supplied to plants, as by the decomposition of oil; so that it is a very superfluous search after difficulty, to make them to be derived wholly from oil, and then to find oil to supply them, since oil is in itself but one out of many vegetable and animal products, and by no means the most abundant one. Besides, the alkalis enter very largely into the composition

of many plants and other earths, and even some minerals may in some plants be found in notable proportions. These could not well be afforded by oil in any manner of decomposition. Soap would be a far more likely material to supply them, and we think must be intended by what is said about the oils being made miscible with water by means of "earths." The fault of the theory is, limiting the meaning of "nourishment," and the supply of materials, far too much. The quantity of oleaginous particles floating in the atmosphere, and brought down from it by showers, seems but a slender resource for the nourishment of our vast native forests; yet, according to our author's theory, it is all they would have. It seems far more natural to suppose that plants draw their nourishment from all the sources to which they have access, containing the principles that enter into their own composition. This theory is taken, as appears by after quotations, from Priestley, and, as first announced, seems to have arisen from a misconception of his remarks on the subject, partly in truth owing to the inaccuracy of his language; his doctrine is besides defective from want of the thorough chemical knowledge, given by later discoveries and more accurate analysis than his own.

We have, however, spent a longer time than we intended, upon this part of the subject, and must hasten to what may be considered the proper substance of the book, the Dendrology. On this, however, our remarks will be much more limited, since there is much to commend generally, and but little to find particular fault with. The descriptions of the trees are clear and well expressed, and as far as we are acquainted with them (our personal acquaintance with them being mostly limited to New England), they are for the most part accurate. The plates are well executed, and will be of much service to persons who are not botanists, in enabling them to distinguish correctly and readily the different kinds of trees. There is one thing, however, which we wish could be amended in works of this nature, though we are afraid it will not readily be so, and that is, the confusion of names bestowed upon the same plant. This is more particularly the case with the specific names, but in some instances extends to the generic appellations. This frequently makes it difficult for us, in reading a work without a copious statement of Synonymes, to know an old acquaintance at first

mention, and sometimes compels us to leave a description in doubt as to the identity of its subject. Should the work have future editions, we would suggest to the author the advantage of annexing to each name its principal synonymes where any are employed by authors of good repute whose works are in use.

The descriptions, we said, were for the most part accurate. To this statement some part of the description of the *Juglans Cathartica* or *Cinerea*, the Butternut, must be considered an exception. He says, "the fruit is commonly single, and is suspended by a thin, pliable peduncle about three inches in length." In conformity with this the plate gives us a nut attached like a cherry to a long slender stem. Now the fact is, that the fruit of the Butternut usually grows in clusters of nuts varying from three to seven, attached to the sides of a not very flexible stem, and very closely sessile, the three lowest ones attached so closely to the end of the stem, that this is not visible on account of the meeting of their bases, the nuts themselves standing at right angles, or nearly so, to the stem, and often forming a tricuspid star. Such a bunch is by our side at this time, and in passing a tree growing in its natural soil and state, we have counted several bunches, each containing six or seven nuts. The most common number, however, is three or four, and where there is a less number, it is usually owing to accident, or imperfect fructification; and examination of the stem will show the scars where other nuts or their germs have been detached. We are the more surprised at the above description, since a very correct one is given by Dr. Bigelow, an author deserving of great confidence for exactness, and to whom reference is expressly made as one of the authorities consulted in compiling or preparing the work.

Among other things we notice the omission of the *Sorbus Aucuparia* or Mountain Ash, much cultivated as an ornamental shrub in Boston and its vicinity, and which, in its native soil, we have seen with a height of twenty-five or thirty feet and a diameter of six or eight inches. Such an omission is a defect; several species of *Rhus* may also claim an admittance to the rank of trees, with as much propriety as the *Cornus Florida* or *Kalmia*.

The size too of the *Cerasus Virginica* in its northern limits is somewhat underrated, since it is frequently found in

New Hampshire and on the Green Mountains of Vermont, with a diameter of two feet or even more, instead of from eight to twelve inches, given as its diameter in a similar latitude in Maine, where the smaller size of it is spoken of in connexion with the length and severity of the cold in winter, so as to lead to the presumption that the former is the consequence of the latter.

The American Holly, *Ilex Opaca*, is stated to be first met with in Connecticut, though Bigelow in his "Flora of New England" mentions finding it in Quincy and at Cohasset. In like manner the vicinity of Poughkeepsie on the Hudson is mentioned as the northern limit of the *Kalmia Latifolia*, though it is found in abundance in some parts of New Hampshire, and is to be met with as far north as the vicinity of Bellows Falls on the Connecticut.

The wood of the White Birch, *Betula Populifolia*, we find here mentioned as being "very good fuel when green." It certainly answers to the warrant of the man who once sold a load of it to an ignorant customer, asserting that "it caught quick and lasted long"; the bark seems almost the only inflammable part of it, and burns readily but briefly, with a bright flame, which going out leaves the blackened wood, with scarcely a vestige of fire, to mock the hopes and task the ingenuity of the consumer. Mr. Browne, we fancy, would conclude that he had made a mistake of some consequence, were he to have no other fuel on a cold winter's day but green white birch. When well dried, this species of birch burns pleasantly, but is quickly consumed. The other species of White Birch, *Betula Papyracea*, or Canoe Birch, will burn tolerably when green, if split up into small billets; hence possibly the mistake may have arisen, but even this can hardly be said to be good fuel.

We think it best to point out these errors, however small they may appear, since finding such in the account of things with which we are familiar, makes us less willing, than we should otherwise be, to put confidence in the accuracy of the details concerning those with which we have less acquaintance; and it is desirable that scientific works should, in their statement of facts particularly, be as free as possible from all error. We have noticed one or two typographical errors in this part of the work, and also in the preceding part. The following sentence (page 313) would probably

be the better for revision. "This tree rarely exceeds forty feet in height and one foot in diameter, and in general it does not exceed these dimensions."

The third part of the work, or the Treatise on Arboriculture, contains a slight sketch of Earths and Soils; their formation, their classification and nomenclature; the general modes of discovering their qualities; the soils and sites best adapted to the growth of timber; the most approved modes of preparing soils for the reception of plants; and the different modes of rearing forest trees.

Much valuable information is undoubtedly to be gained from this portion of the book; but it has the great fault of being compiled too literally from English writers to be precisely what is most wanted for practical use in this country. In this land of sportsmen, where scarcely a robbin can show his head without being fired at by some unlucky urchin, a "rabbit-proof fence" for a nursery of forest trees may be deemed rather superfluous, and we have never heard here of any manufactory of "iron-wire-netting for fences to young plants." Timber is not yet scarce enough to make it profitable to raise it by means of such costly appliances, or by such laborious preparation of the soil and after cultivation, as are prescribed in this treatise. Indeed we doubt greatly of their necessity, seeing as we do young and thrifty trees springing up in our forests from seed dropped by the process of nature; and seeing how well these flourish, when transplanted to a suitable soil, without any previous preparation or any particular after care. Still we doubt not that some attention to them would be repaid by the more flourishing growth of the trees reared or transplanted, and should wish to have that pointed out which is suitable or necessary, and within the limits of the time and labor that our cultivators could profitably bestow. In England and France the cultivation of our fine forest trees may require and repay the means here recommended; but in their native climate and their natural soil and situations, the grafting, the budding, and the layering, the trenching of the soil and the compost manuring, the shading and sheltering and nursing, the minute and careful directions for shortening and trimming and pruning, seem somewhat of a work of supererogation; having the tendency either to deter people altogether from attending to the matter, or to excite their sneers at

needless learning, and make them unwilling to do any thing but trust to nature to make trees grow after her own fashion, without the help of man to aid her in her works. It may be well enough to know what are the results of foreign attention to this subject, with a knowledge of the circumstances under which that attention was given and those results were obtained ; since from them we might derive many useful hints, to be adopted in practice as opportunity or occasions should offer ; but for a work on this subject that shall be of any extensive practical utility here, the results of experience and observation in this country are needed. Such can undoubtedly be found ; and even at the expense of appearing less scientific and profound, we think it would be well to make use of them instead of relying upon foreign writers, often from habit and education wedded to systems or modes of proceeding that involve much of what is unnecessary.

On page 333 we find the following direction for planting seeds, which seems in some way or other very erroneous. "For the smaller seeds of the Plane, Sycamore, Horn-beam, Maple, and Ash, it will be proper to mix with them sand, in quantity about equal to their bulk, placing the mixture on the ground *a foot in thickness*, and covering that with an inch thick of mould." This seems to be thick seeding indeed. We suspect that these directions were for preserving the seeds for planting, and not for the planting itself.

The remarks that we have made seem to render almost unnecessary a summary of our opinion of the merits of this work. The third part of it requires much improvement. With the first two parts we are for the most part well pleased, and as a book merely, in the articles of print, paper, &c., and its general form, it is highly creditable to the publishers.

ART. III. — *Journal of an Expedition to explore the Course and Termination of the Niger ; with a Narrative of a Voyage down that River to its termination.* By RICHARD and JOHN LANDER. *Illustrated with Engravings and Maps.* New York. J. & J. Harper. 1832. 2 vols. 12mo. pp. 384 and 337.

THIS work is preceded by an Introduction written by Lieutenant Becher of the Royal Navy, who gives a succinct

and interesting history of what little has been known of the source and termination of the river Niger, from the time of Herodotus to the present day. From the year 1788, when our enterprising and unfortunate countryman Ledyard fell a martyr to the spirit of African discovery, to the present period, several expeditions have been set on foot in England for the purpose of solving "the great geographical problem," and many valuable lives have been lost in the undertaking. Mungo Park was the first European who traced in part the course of the river, and succeeded in reaching Boossà, a populous town upon its banks, and more than three hundred miles from the source of the stream. It was at this place that he was attacked and killed by the natives, who mistook the black people accompanying him for Falátahs, a nation with whom they were then at war.

Of the adventurers preceding Park it is not our purpose to take notice, for they throw no distinct light upon the disputed question, while from those that succeeded him, until we come to the Landers, we derive no valuable hints except from Captain Clapperton of the British Navy, who reached Sockatoo from the north of Africa in 1824, "and there first gained the intelligence that the river *ran to the south*." In his next voyage Clapperton arrived at Badágyr in the Bight of Benin; and all of his party except Richard Lander his attendant and friend died in a few days after leaving that place. The survivors, notwithstanding their loss, pursued their way into the country and reached the Niger at Boossà, and at some distance below that place crossed the river and proceeded to the north till they reached Sockatoo, where Clapperton died. From Boossà they might very probably have succeeded in descending the Niger; but Clapperton, we are told, "had a firm conviction that whoever attempted to go down the river would fall by the attacks of the natives, and would never live to reach its termination." Lander, after numerous difficulties and dangers, succeeded in reaching England. We ought not to omit mentioning Major Laing, who, during Clapperton's second expedition, penetrated from Tripoli to Timbuctoo, and was cruelly murdered soon after leaving the latter city by a Moorish merchant whom he had engaged as a guide. Major Laing's papers have not yet reached England; but there is still reason to hope that they are not lost, and they are of value because they probably

contain important and authentic information touching Timbuctoo, and would determine whether we are to set down the narration of the American seaman Adams relating to that city as apocrypha or true scripture.

We now come to the Landers, who have done the state some service. Richard Lander whom we have mentioned, having justly acquired much credit for his energy and success in the second expedition under Clapperton and for his acquaintance with the nature of the undertaking, particularly attracted the notice of the British government as the most suitable person to trace the course of the river below Boossà. His services, which he offered to the government, were readily engaged on their part, and he left England accompanied by his brother, John Lander, with raised expectations of success. A better selection could not have been made where the principal object in view was not the immediate benefit to science, but to trace out this hitherto unthreaded labyrinth, — an object that required chiefly energy, perseverance, and prudence. These with other good qualities, and especially a humble but firm reliance on the providence of God, the Landers possessed in a commendable measure. Every step they took, every sentiment they utter, shows their entire fitness for the arduous purpose. They have not the advantages of education, to enable them to make an imposing and elaborate book; they are of humble origin, and have been brought before the world by circumstances which did not promise such a result; but they have written a book, the aggregate of their journal faithfully set down day by day, full of interest both in narration and description, simple in its style, and in general very correct; remarkably so, when we call to mind their few advantages, — and more particularly so when we call to mind that they were from Cornwall, and did not spring from the loins of New England, where every man who chooses can master circumstances and create his own rank in society.

The Landers reached Badagry, March 19th, 1831, having previously engaged at Cape Coast Castle, “old Pascoe and his wife, with Jowdie, who had been employed on the last mission, Ibrahim and Mina, two Bornou men, who were well acquainted with English manners, and could converse in the Hausa language. The adventurers carried with them from England a large quantity of goods intended as presents for

the native chiefs, whose cupidity is insatiable, but whose vanity is in general easily indulged by gewgaws and trifles.

After remaining at Badagry for some days they finally obtained permission from king Adooley to proceed into the country. Their immediate object was to reach the Niger at Boossà, distant from the coast at Badagry about three hundred miles; whilst by the course of the river, according to their map, Boossà appears to be twice that distance from the sea. After experiencing some hardships from exposure to the weather and want of comfortable habitations, they reached Katunga, May 13th. On leaving this place which is situate not far from the Niger, they were obliged by circumstances to deviate from their direct route, and to traverse the country to Kiama in a northwest direction; thence they proceeded to Boossà where they arrived on the 17th of June. The next day they visited the river, and express their disappointment at its appearance in the following terms:

"This morning we visited the far-famed *Niger* or *Quorra*, which flows by the city, about a mile from our residence, and were greatly disappointed at the appearance of this celebrated river. Black rugged rocks rose abruptly from the centre of the stream, causing strong ripples and eddies on its surface. It is said that a few miles above Boossà, the river is divided into three branches, by two small fertile islands, and that it flows from hence in one continued stream to Funda. The Niger here, in its widest part, is not more than a stone's throw across at present. The rock on which we sat overlooks the spot where Mr. Park and his associates met their unhappy fate; we could not help meditating on that circumstance, and on the number of valuable lives which have been sacrificed in attempting to explore this river, and secretly implored the Almighty that we might be the humble means of setting at rest for ever the great question of its course and termination." Vol. I. pp. 238, 239.

At Boossà they obtained possession of a "crimson damask robe" overlaid with gold embroidery, which is supposed to have belonged to the unfortunate Park. They had also great expectations of obtaining there the journal of that traveller, for which they made diligent inquiry; but all that they found was a book of logarithms, "a thick royal octavo" that contained between its leaves "a few loose papers of very little consequence." After examining the book and find-

ing that it contained nothing of importance relating to the subject of their inquiry, they returned it to the owner, who "valued it as much as a household god." "Thus," say they, "all our hopes of obtaining Mr. Park's journal or papers in this city are entirely defeated." The king of Boossà treated our travellers with great hospitality, and provided them with canoes at the village of Kagogie, a few miles out of the city, in which they embarked and proceeded up the river in a northerly direction some sixty miles to Yàoorie. Between Boossà and Yàoorie the river varies from two to seven or eight miles in breadth, and contains numerous islands; and for a part of the way the scenery is interesting and picturesque; the banks are covered with villages and hamlets interspersed with numerous fine trees.

"Although during the dry season, no communication or intercourse is maintained by water between Boossà and the countries or states lower down the river, by reason of the dangerous rocks which have been already alluded to more than once; yet in the wet season, after the 'Malca' (or fourteen days' incessant rain) has set in, when all the rivers which are dry during the remainder of the year pour their overplus into the 'Great Father of Waters,' as the Niger is emphatically styled, then canoes, it is said, pass to and fro between Yàoorie, Nouffie, Boossà, and Funda. It is immediately after the 'Malca,' also, that the Niger, by the depth and velocity of its current, sweeps off the rank grass which springs up annually on its borders. Every rock and every low island is then completely covered, and may be passed over in canoes without difficulty, or even apprehension of danger. The enterprising Mr. Park must have had a thousand difficulties to overcome in his voyage down the Niger. It was about this time of the year that he arrived at Yàoorie, and the river, it is said, was then about the same height as it is at present. The canoemen, who in all probability were his slaves, were said to be chained to the canoe, in order to prevent their running away; his pilot was unacquainted with the river any farther, and therefore he received his wages here in Yàoorie and returned to his own country; and Mr. Park, with a companion, and three white boys, continued their journey down the Niger, without any person whatever to point out the safest channel, or warn them of their danger. When the accident happened at Boossà by which they lost their lives, it is said they preferred being drowned to avoid as they imagined a more dreadful death." Vol. I. pp. 260, 261.

The Sultan of Yàoorie had pretended to Clapperton and afterwards to the Landers, that he was in possession of the papers of Park; but our travellers, after a long and persevering attempt to obtain them, were satisfied that the Sultan had never possessed them, and that the only object of his pitiful conduct was to get our travellers "into his power, by misrepresentation and falsehood, in order to obtain some of their European articles." They, however, met with the chief of the Arabs of the city, a very old man dressed in the costume of his country, with a long beard as white as snow, and a tuft of hair under the lower lip, resembling "the tail of a white mouse." He had in his possession a cutlass and double-barrelled gun very excellent and handsomely mounted, which were a part of Mr. Park's present to the Sultan. The gun they fortunately succeeded in purchasing.

Our travellers left Yàoorie on the 2d of August, and proceeded to the river Cubbie, on which is a village of the same name. The inhabitants of the borders of this stream, and also of many of the islands in the Niger between Yàoorie and Boossà, are the Cumbrie people subject to the Sultan; they are represented as being "a poor, despised, and abased, but industrious and hard-working race." Indeed the instances mentioned in the work under review show that they are liable to every species of exaction and oppression. On returning down the Niger our travellers were struck with the sudden change in the width of the stream. Near the village of Garnicassa, a few miles above Boossà, the river is seven or eight miles in width, while at the latter place "it is no more than a stone's throw across, and its depth is in proportion to its narrowness"; and a few miles below Boossà it is again several miles in width. "This singular fact," they think, "favors the opinion that a large portion of the waters is conveyed by subterraneous passages from Garnicassa to a few miles below Boossà."

Before proceeding down the Niger, the Landers, at the instigation of the king of Boossà, which they did not think it safe to neglect, visited the city of Wowow some thirty miles to the southwest of Boossà, and perhaps twenty miles from the river, judging from the map. Here they remained some days, and from information that they received were encouraged to hope they might succeed here in recovering the journal of Park. One of the natives it was ascertained had

had several books belonging to Park in his possession, and had preserved them for many years with religious care.

"The man said he had shown them to the Arabs who were in the habit of visiting the town, but they could not understand the language in which they were written, and merely conjectured that their contents related to money matters, and were therefore of no kind of use whatever to any one. Yet, notwithstanding their uselessness, the man is reported to have kept the books carefully concealed in his house till the arrival of Captain Clapperton at Wowow; but when he found that this officer made no inquiries for such books, he neglected to pay any further attention to them, and they were destroyed shortly after, or, to use his own words, they 'dropped or fell to pieces.' By the description which has been given of one of the books alluded to, I am inclined to believe that it must have been either Mr. Park's journal, or a book of manuscripts of some sort. Thus have all our inquiries for the recovery of the lost papers of this traveller ended in disappointment: even when we had made almost sure of them, and our feelings excited to their highest pitch on more than one occasion, we have felt all the bitterness of hope suddenly extinguished." Vol. I. p. 331.

After many vexatious delays, and after obtaining several canoes, which seems to be a matter of as much negotiation and importance as a treaty of peace between the first-rate powers of Europe, they were permitted to leave Boossà on the 20th of September, and embark on board their canoes on the bosom of that far-famed river, that had never been pressed by the white man between the point of their departure and its mouth; a distance, as we should suppose by tracing its course on the map, of some six hundred miles. To them it was left to confirm or dispute any of the numerous theories that ingenuity had broached as to its course and termination. And it is due to them to say, that in all their previous and subsequent progress they conducted the important duty assigned them with great fidelity and skill, and with untiring zeal.

We cannot follow minutely the course of the Landers down the river, nor relate the various adventures they met with. On their passage they were detained at various towns, and suffered numerous inconveniences, while the occasional dangers of the navigation, the violent storms of rain, thunder, and lightning, the terror experienced from the numerous

crocodiles and hippopotami that infest the river, the several attacks and the generally uncertain conduct of the natives, all tended to render their danger immediate, and the final result of their expedition involved in doubt. On the 25th of October they passed the mouth of a river emptying into the Niger on the east, from three to four miles in width, and having a very rapid current; so much so that their wearied boatmen were unable to stem it for any distance and "they were easily swept back into the Niger." This river was probably the Tshadda, with a large town upon its banks. On the 5th of November as they were passing Kirree, near which a branch of the river turns off to Benin, they were attacked furiously by some of the natives, and all their baggage and clothes were taken from them; one of the canoes to which their baggage was transferred was soon afterwards upset, and the principal part of Richard's journal, together with a part of John's, was lost; though it fortunately so happened that what was saved of each enabled them to make out a complete diary for their whole journey. They also finally lost the principal part of their clothing, their compass, the excellent and handsomely mounted double-barrelled gun that was Park's, together with the various presents they had received during their journey, and all those articles on which they depended to enable them to purchase provisions. It was market-day at Kirree, and a long *palaver* was had upon their case; which resulted in an order that whatever of their property had been saved, should be restored to them, that the man who had first commenced the attack should lose his head, and that the Landers should consider themselves as prisoners and be carried on the morrow to Obie, king of the Eboe country, to await his decision touching their persons. This the Landers at the moment considered a happy issue of their calamities, but it proved far otherwise.

The interpreter of the party, the Bonny messenger, who had accompanied the travellers from Damuggoo made a long speech to Obie, representing their losses and the sufferings they had consequently experienced; but all this, though for the time it produced a sensible effect upon the king, was in the end unavailing; for after a long delay, in which our travellers were kept in a most uncomfortable state of suspense, he decided, that, circumstances having thrown them

into his power, the laws and usages of his country gave him a right to their persons, and those of their attendants, but that he would take no other advantage of his good fortune than to exchange them for a quantity of English goods equal in value to twenty slaves,—a very modest demand from men who had been robbed of all they possessed. The matter, however, was finally arranged so as to permit them to go down to the mouth of the river, which there bears the name of the river Nun, under the conduct of King Boy, one of the *petty great* men of the country, they paying Boy for his services the value of fifteen casks of palm oil, equivalent to fifteen slaves, and a hogshead of rum in addition to the ransom required by Obie. The Landers were rejoiced to be set at liberty even on these terms, and had no doubt that the captain of the English brig *Thomas* lying at the mouth of the river would promptly pay their bill on the government for the amount of their ransom.

On the 12th of November they left Eboe and proceeded down to the Brass country near the mouth of the Nun. Here King Forday, the ruler of the country, detained John Lander, and suffered only Richard with some attendants to go off to the brig. The reception he met with from the captain, one Lake, the greatest barbarian of them all, was shameful beyond description. He abused Lander in the grossest language and with the most vulgar profaneness, and positively refused to do any thing for the liberation of his countrymen, although the faith and honor of his government were pledged to the repayment of all that he might advance. Richard Lander after long entreaty succeeded in persuading King Boy to return to the Brass country and bring John his brother to the brig. In a few days Boy returned with John, and demanded of Lake payment of the whole or a part of the ransom. But Lake was consistent in his villany throughout; and by the oaths and threats that he made use of, he terrified Boy to such a degree that he speedily retreated from the vessel, and made his way with all due expedition to the shore. It is gratifying, however, to learn that the British government immediately on learning the difficulty in which the travellers had been involved took measures to pay the reward that had been promised. After imminent danger of shipwreck in attempting to leave the river, Lake succeeded in getting to sea, and set the Landers ashore at the

island of Fernando Po, where they were hospitably received and entertained by the British officers; for our readers are probably aware that this island was selected by the English government as a favorable position for putting a stop to the slave trade in that quarter of Africa. Here they remained till their health and strength were thoroughly restored, when they embarked on board the *Caernarvon* for Rio Janeiro. From Rio Janeiro they sailed March 20, 1831, for their native land, which they reached on the 10th of the following June, after an absence of eighteen months.

We have endeavoured to trace in a general manner, the route of the Landers from the time of their leaving Badagry, till they reached the mouth of the Niger. This river is called by the natives the Quorrà, except the lower part of it, which is known by the name of the First Brass River, and by the Europeans, as we have already mentioned, as the Nun. We reluctantly deny ourselves the pleasure of giving a pretty full account of what our travellers observed in their journey; not that the people they saw possessed any remarkably interesting qualities, but because the information contained in their Journal has the authority of truth: and because they passed over a wide extent of country never before laid open to the inquisitive eye of the white man. Of the various tribes they saw, those nearest the coast are the most degraded; while those in the interior who have had no intercourse with the Europeans, are a better race of people, and are raised from the thorough degradation of paganism to the partial illumination of the Koran. But this is only occasional; for the mass of the natives worship they know not what, and believe in *fetishes*, charms, withcraft, and all manner of superstitions.

They are generally a mild and timid people; and it is but justice to them to say, that in very many instances they illustrated to our travellers the noble virtue of hospitality. They were curious to see the white men, and this made them often annoying; but they were easily frightened and reduced to quiet. Many of the princes of the petty kingdoms entertained them perhaps as well as they were able; others made a great exercise of their power in various exactions; and all of them discovered the most marked cupidity for the articles of merchandise that the travellers had with them. They were ever on the look-out for presents, and manifested their

longings by no gentle hints. It scarcely mattered what,—whether a polished button or a bit of a looking-glass or any other shining gewgaw,—all were joyously received and proudly worn.

There is a race of the natives who consider themselves much superior, and are in fact superior, to the other blacks. They possess greater bravery, stronger social affections, in short more of the peculiar attributes of human beings, than those with whom they mingle and whom they surpass. These are the Falâtahs, a wandering and ambitious people, who are gradually extending their settlements to the western ocean, and already possess several walled towns and large districts of country, and will eventually succeed in becoming the dominant power throughout Central Africa. They speak the same language as the Foulahs near Sierra Leone, and like them are supposed to be the white Ethiopians of Ptolemy and Pliny. But they have no idea of their origin, nor of the time when their ancestors emigrated from their native land.

Much of the country through which the Landers travelled, possesses a fertile soil, easy of cultivation. Yams, corn, rice, goora nuts, and numerous other fruits are obtained in abundance. Palm wine is made in great quantities, while palm oil, ivory, &c., have been for many years articles of foreign trade. They have in many places, in the hilly country fine cattle, with numerous sheep, swine, and poultry. In other places they breed excellent horses; in others, they pride themselves on their canoes. In the vicinity of the large market-towns, as Rabba for instance, many of the inhabitants are employed in spinning cotton and silk, making wooden bowls and dishes, mats, shoes, sandals, cotton dresses, and caps, brass and iron stirrups, bits for bridles, hoes, chains, saddles, &c.; and in many of their mechanical operations they “evinced considerable taste and ingenuity.”

To the Landers belongs all the praise of settling for ever the vexed question of the direction and termination of the Niger, or Quorrà, as it will probably hereafter be called. Nor is this discovery a mere matter of barren curiosity, where all the importance and interest of the problem ends with its solution. Far otherwise; we look upon the successful issue of this enterprise as one of the most important results of the stirring character of the age, especially since the power of steam has so triumphantly conquered time and

space, wind and tide, and every element that enters into the obstruction of motion. The Quorrà and its numerous tributaries are opening to the skill and industry of the whites the whole of Central, and a large portion of Western Africa. A new and productive world is opening to the active energies of commerce, where an exchange of commodities will beget a community of interests, give a new impulse to the creations of trade, and become the cause of its own increase. The thick clouds that have so long overshadowed this wretched country, making "palpable darkness," we trust will ere long be dispelled; and the faint and feeble rays of light that just begin to tinge their edges with golden hues will soon shine out in the brightness of noon-day. An opportunity such as has never before been presented is here afforded for extinguishing at an early day every remnant of the slave-trade, with all its melancholy detail of cruelty, wretchedness, and crime; and the philanthropist may well rejoice that the weapons of his warfare, civilization and Christianity, may now be effectually directed against savage ignorance and pagan superstitions; and that from their ruins may spring up that life-giving intelligence that shall finally raise this degraded people in the scale of intellectual and moral beings.

ART. IV. — 1. *Life in the Wilds. A Tale.* [*Illustrations of Political Economy.*] By HARRIET MARTINEAU, Author of "Times of the Saviour" ["Traditions of Palestine"], "Five Years of Youth," &c. Boston. Leonard C. Bowles. 1832. 16mo. pp. xviii, 190.

2. *The Hill and the Valley. A Tale.* [*Illustrations of Political Economy.*] By HARRIET MARTINEAU, Author of "Times of the Saviour," &c. Boston. Leonard C. Bowles. 1832. 16mo. pp. 216.

THERE are various ways of imparting knowledge, and writers of the present time are rich in expedients and inventions for making it reach persons of all classes and all ages. It seems sometimes to be regarded as a dry or bitter pill, whose sanative virtues are so indispensable in order to cure the maladies of the social state, that it must be moistened or sweetened in such a way as to be administered at all adven-

tures ; and it is fortunate if the medicine, instead of being merely disguised, is not vitiated and rendered inoperative. No doubt much good has been effected by the various methods adopted to bring useful knowledge within the reach of common minds, and to save the waste of a portion of childhood and youth, so as to gain something for manhood. Certain it is, that there are many subjects, useful to all persons, which can be pursued as a science only by a few. Of this number is political economy, which, with its abstract propositions and speculations, and its technical apparatus, is a severe study ; but which, as illustrated by every day's practice, by the various operations going on in every city, town, and village, may afford lessons to the ignorant, and means of explanation to those a little above the ignorant, which may have a wide and wholesome influence.

The first of Miss Martineau's *Tales*, "*Life in the Wilds*," is a story, the scene of which is laid in the south of Africa. It is intended to illustrate the economy of Labor, where it is not combined with Capital. A little British settlement there is represented to have lost all its dwellings, cattle, machinery, and utensils, by an attack from the natives, and consequently the people were left to their ingenuity and contrivance (without money for repairing their loss) for procuring food and shelter, and such substitutes as could be found for those implements of husbandry, and articles of domestic furniture, which are regarded as essential in civilized society. By a skilful division of labor, in which there was no interference and no waste, the description of which affords a beautiful picture of what we might suppose to be primitive simplicity, the loss of those who composed this small community was gradually made up, till at length their prosperity justified the purchase of farming utensils upon credit, to be paid for from the surplus of future crops and more productive labor.

This Tale illustrates some of the important and well established principles of political economy ; namely, that wealth consists of such commodities as are useful, and is procured by labor upon the inexhaustible materials which nature furnishes, — materials limited only by the limits of human intelligence ; that not only productive labor, but every thing which stimulates it, especially that sort of unproductive labor, technically so called, the moral effects of which come in aid

of sobriety, health, and industry, is beneficial; and that economy of labor is promoted by its division, and by machinery.

The second Tale, "The Hill and the Valley," is founded in a more advanced state of society, and the scene is laid in a wild district of South Wales;—the "Hill" being the abiding-place of an eccentric recluse in his lonely cottage, who was not a little disturbed by the erection of iron-works in the "Valley" which he overlooked. The main action of this story consists in the successful establishment of a manufactory of iron; its rapid advances and increasing profits, and the high wages of the workmen; a subsequent diminution of profits and consequent diminution of wages, attended with the usual dissatisfaction of the laborers; till at length the proprietors were obliged to introduce new machinery and to discharge a part of the workmen, who, instead of leaving the establishment quietly, loitered around it, and produced a general sedition, increased and maddened by a fatal accident happening to one of the youth, from the new machinery. This tragical part of the story is heightened by the appearance of the youth's mother, ignorant, unreasonable, and revengeful; and the destruction of the machinery and desolation of the establishment by the infuriated workmen, and their consequent punishment and suffering, form the catastrophe of the tale.

This tale illustrates the nature of Capital; its creation and further production; the distinction between fixed and reproduceable capital; economy of labor, and the effects of the introduction of machinery as promoting the growth of capital and increasing the demand for labor; and the identity of interest between the laborer and the capitalist.

In each of the Tales sufficient interest is excited in the story to secure the attention of the reader. Whether it be not so prominent sometimes as to divert the mind from the truths and inferences to which it is intended to be merely subsidiary, we cannot determine with certainty. But it is impossible that these tales should be read by those who are ignorant of what has been written on Political Economy, without their deriving from them much instruction. The author gives good reasons for her confidence in the method of conveying instruction which she has adopted, and has evidently a consciousness of a laudable purpose, which we think

she has ably fulfilled by bringing together "the truth and its application."

"If," she says, "we want to teach that security of property is necessary to the prosperity of a people, and to show how and in what proportion wealth increases where there is that security, and dwindles away where there is not, we may make the fact and the reasons very well understood by stating them in a dry, plain way: but the same thing will be quite as evident, and far more interesting and better remembered, if we confirm our doctrine by accounts of the hardships suffered by individuals, and the injuries by society, in such a country as Turkey, which remains in a state of barbarism chiefly through the insecurity of property. The story of a merchant in Turkey, in contrast with one of an English merchant, will convey as much truth as any set of propositions on the subject, and will impress the memory and engage the interest in a much greater degree. This method of teaching Political Economy has never yet been tried, except in the instances of a short story or separate passage here and there.

"This is the method in which we propose to convey the leading truths of Political Economy, as soundly, as systematically, as clearly and faithfully, as the utmost pains-taking and the strongest attachment to the subject will enable us to do. We trust we shall not be supposed to countenance the practice of making use of narrative as a trap to catch idle readers, and make them learn something they are afraid of. We detest the practice, and feel ourselves insulted whenever a book of the *trap* kind is put into our hands. It is many years since we grew sick of works that pretend to be stories, and turn out to be catechisms of some kind of knowledge which we had much rather become acquainted with in its genuine form. The reason why we choose the form of narrative is, that we really think it the best in which Political Economy can be taught, as we should say of nearly every kind of moral science. Once more we must apply the old proverb, 'Example is better than precept.' We take this proverb as the motto of our design. We declare frankly that our object is to teach Political Economy, and that we have chosen this method not only because it is new, not only because it is entertaining, but because we think it the most faithful and the most complete." pp. x—xii.

We have no reason to suppose that the author by these remarks intends that her books shall supersede learned treatises on Political Economy. Of such treatises she speaks with respect, as conveying a knowledge of the history and

philosophy of the science ; enough of the truths pertaining to it ; but she thinks them too bare of illustration for popular use. In these views she is undoubtedly correct, and they furnish an ample apology for the method which she has so well chosen and executed.

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- ART. V. — 1. *An Elementary Treatise on Geometry simplified for Beginners not versed in Algebra*. Part I. — *Containing Plane Geometry, with its Application to the Solution of Problems*. By FRANCIS J. GRUND. Second Edition. Boston. Carter & Hendee. 1830. 12mo. pp. 238.
2. *An Elementary Treatise on Geometry simplified for Beginners not versed in Algebra*. Part II. — *Containing Solid Geometry, with its Application to the Solution of Problems*. By FRANCIS J. GRUND. Boston. Carter & Hendee. 1831. 12mo. pp. 196.
3. *Elements of Natural Philosophy, with Practical Exercises, for the Use of Schools*. By FRANCIS J. GRUND. Boston. Carter & Hendee. 1832. 12mo. pp. 278.

WE think we are safe in recommending these works to our readers as written in *the latest fashion* ; and we have no doubt that they will have their day. They seem admirably adapted for preparing scholars to pass a showy, even brilliant examination, and there are probably no works better suited for enabling children to study the sciences of Geometry and Natural Philosophy. But our short experience has confirmed to us the truth of the observation of a great French instructor and mathematician, the distinguished Lacroix, that most boys are not capable of acquiring a knowledge of the elements of mathematics till the age of fifteen or sixteen. "It will be thought, perhaps," he says, in an edition of his *Essays*, corrected by himself and published in the year 1828, "that I do not allow this study to be commenced so soon as is expedient, and I confess I have met with children much more precocious ; but the exceptions are too few to modify the general rule. I hope they will become less rare, as the earlier education becomes more perfect ; but as it is, I must be governed by what I have almost always observed to be the fact."

This remark, coming from such high authority, deserves the attention of instructors, as well as his advice to prepare students for understanding the theory of mathematics by a course of experimental instruction. He thinks the child should be employed in drawing the outlines of houses, tools, machines, and of bodies of every description. By this means they would practically obtain a supply of geometrical facts which could readily be combined into a general theory.

If then the boy is not to begin the study of the elements of Geometry till the age of fifteen, he does not need much of the simplification which Mr. Grund has introduced into his works merely, as we conceive, to meet the popular taste. There are, however, some valuable improvements in his methods of demonstration for which he deserves great credit, particularly for his boldness in laying it down as an axiom, that "two bodies are equal to one another in solidity, when, having equivalent bases, and equal heights, they have also, in every point of their height, the same thickness." This is a proposition which we readily assent to as soon as it is stated, and it has the effect of diminishing very much the labor of demonstration. Improvements of this character prove Mr. Grund to be capable of writing treatises of a more scientific character, which are much more needed at the present day than these popular tracts. We shall not enter into a farther analysis of them, as we think that, however much they may be used to-day, they will to-morrow be supplanted by something new, and will at once be forgotten.

ART. VI. — *A Collection of Arithmetical and Algebraical Problems and Formulae.* By MEIER HIRSCH. *Translated from the original German, and adapted to the Use of the American Student,* by FRANCIS J. GRUND, Teacher of Mathematics. Boston. Carter & Hendee. 1831. 12mo. pp. 340.

THE most eminent mathematical authority in our country has been often heard to remark, that Mathematics can be acquired only by solving problems; and it is evident that the student is deficient in the most important part of scientific attainment, till he has a practical acquaintance with it. It

was to meet views of this kind that Meier Hirsch made this most admirable selection of problems; and this neat American edition of them deserves our warmest thanks. The Collection begins with several pages of Arithmetical Problems, to which Mr. Grund has made some valuable additions, and which now embrace all that is important in numerical calculation. The Second Chapter contains examples in the fundamental operations of Addition, Subtraction, Multiplication, and Division, of Simple and Compound Quantities. The Third Chapter is on the Calculation of Powers; the Fourth, on Surds; the Fifth, on Fractional Exponents; the Sixth, on Imaginary Quantities; the Seventh exemplifies various useful reductions; the Eighth contains Logarithms; the Ninth, Permutations, Combinations, and Variations; the Tenth, the Binomial and Polynomial Theorems; the Eleventh, Progressions; the Twelfth, Continued Fractions. These twelve chapters constitute the First Section of the work, and the student who can solve all the Problems contained in it, may consider himself a proficient in the notation employed by algebraists. The Second Section is devoted to Equations of various degrees, and gives the usual methods of proving them by approximation. The Third Section is the best selection of problems for the application of Algebra that has ever been digested, and is worthy of one of the "best teachers of our time." This work has been repeatedly published in Germany, and has added to the reputation of its author. But we fear it will be long before it gets into general use in this country; for it is not one of the fashionable productions which are so admirably contrived to relieve the labors of the instructor, and no labor will bring it down to the capacity of the genius of the nursery. It must be studied, and the most promising lad of the higher class will not be able to master all its problems without hard study. The instructor, too, must be very discreet in the use of it, and must not put it into the hands of a boy to be gone through, example after example, without any judgment. He must select and arrange with great care, according to the talents of his pupil. On most students some of the problems would be wholly thrown away, and could only serve to confuse and discourage them; and there are very few that can enter into the spirit of generalization so conspicuous in the last two sections. If the teacher is not thus judi-

cious, he will fail of success, and let him not attribute his failure to the defects of this excellent text-book. No work needs more caution in its use ; but, if it is used with caution, it will certainly lead to a thorough acquaintance with Algebra, and to a full developement of the mathematical powers of the young student.

ART. VII. — *The Sacred History of the World, as displayed in the Creation and subsequent Events to the Deluge, attempted to be philosophically considered in a Series of Letters to a Son.* By SHARON TURNER, F. S. A. and R. A. S. L., Author of "The History of England," "The History of the Anglo-Saxons," &c. New York. J. & J. Harper. 1832. 12mo. pp. 428.

THIS is the work of a veteran in literature, a man both of science and letters, and possessing considerable reputation from the merits of his former productions. The task that he has here undertaken, is one that demands great judgment and a wide extent of knowledge for its successful completion.

What this task is, the author thus states for himself :

"My purpose in these letters will be, to review the sacred history of the world from the creation to the deluge, as it has been narrated to us in the most ancient history and book now existing ; and which has been universally venerated in the Christian world for its truth and origin, from the commencement of the Christian faith.

"From this authority we must take the facts that will form the foundation of the work. But the peculiar object of these letters will be to consider these facts with a due recollection of the reasoned science, and of the varied knowledge and enlightened investigation of the times we live in, so far as the defective information of the writer may reach ; and to take those views of extended thought, which may harmonize the recorded circumstances with the philosophical judgments."

In comparing the execution with the promise, (if the volume before us be the whole of the work, and we have no intimation that the case is otherwise) the first falls sadly short of the last ; since the review of the sacred history does not extend beyond the events recorded in the first chapter

of Genesis, or the six days of creation, according to the first account of it. There is, too, a great deal of irrelevant matter in the course of the book, in the form of sketches of the different kingdoms of animated nature. The author's intention, as we infer from what he has presented to us, is, to reconcile the Mosaic account of the Creation and of the occurrence of the Deluge, taken as literally true in all respects both of circumstance and chronology, with the discoveries of modern science and research, and thereby to overthrow all theories, suppositions, and doctrines at variance with that account thus taken. In doing this, he could not resist the temptation to display his various accumulated stores of knowledge and observation, and thus has been betrayed into a great part of the various sketches just mentioned, which are good indeed, and in themselves well worth having, but by no means essential or pertinent to the great object for which he began the work. They serve to mask the difficulties he encounters, and the failure, as seems to us, in many instances, of his attempts to overcome them, under a show of erudition and a mass of information well calculated to draw the minds of the young, of the partially informed, and of those not in the habit of exercising close logic in their reasonings, from attention to the immediate bearing of the argument, and from a perception of its deficiency.

The object which Mr. Turner proposed to himself, according to our view of the case, which, as far as it goes, in this point differs not materially from that given in his own statement, is a good and invaluable one. If it could be thoroughly gained, it would remove a fruitful source of skepticism from the worldly and the weak, and of uneasy doubt and misgiving from the pious, from such as are disposed to inquire concerning the causes and manners of being of things that are constantly around them; yet a labored attempt failing of such success seems rather prejudicial, than otherwise, to the cause in support of which it is made. An honest confession of ignorance and of incapability of reconciling these conflicting data appears preferable to an assumption of literal and exact truth on one side, and a failure to show its consistency with observed and admitted facts, and what appear to be legitimate deductions from them.

Notwithstanding our firm belief as well in the Jewish dispensation as in the Christian Revelation, still it cannot be

concealed that there are great difficulties in the Mosaic account of the creation of the world, and its history before the deluge. These difficulties originate from two sources; one is, the discrepancies to be observed in the history itself, and various coincidences and contradictions to be found in profane literature, with want of sufficient means to weigh the value of this; and the other is our inability to reconcile its statements with the results of the investigations of science. To remove these difficulties, particularly as arising from the last source, is the object of the work before us; and as we are not writing a dissertation on the subject at large, we shall say nothing about it but with reference to certain portions of the contents of this work, and merely in order to illustrate its merits.

In the first place, as we observed, the author assumes the Mosaic account to be literally true, and then proceeds to explain away the seeming contradictions. He begins with quoting each principal verse in the words of the Scripture, and then goes on to illustrate it. In his first citation he uses the term God, with *Elohim* in brackets as its equivalent, afterwards *Elohim* is used alone as a proper name representing the Deity. *Elohim* is not a proper name representing merely the God of the Hebrews. Jehovah was the peculiar and sacred name of Him, who was the object of Jewish as He is now of Christian adoration. *Elohim* is applied equally to the gods of the heathen, and even to princes, or to distinguished men.

After quoting the first verse, the author observes, "Instead of deriving the world from God, it was more common among classical nations to derive their gods from the world," "and, until the prevalence of Christianity diffused the knowledge and authenticity of the Mosaic record as to the origin of things, nothing was positively known or rationally believed about it." Soon after, he quotes a passage from the "Institutes of Menu," part of the Hindoo account of the Creation, wherein it is expressly ascribed to "the Soul of all beings," elsewhere in that work described as the "Most High Eternal Spirit," "the Almighty himself," the "One God," the "Supreme God." These Institutes of Menu are believed by the Hindoos to be the work of divine inspiration, and are regarded by them with the same reverence as the Bible is by us. And since they ascribe the Creation to God,

thus designating Him, it seems hardly just to say, that nothing was positively known or rationally believed about it. It is far from certain that the Mosaic and Hindoo accounts had not some common origin, endless fables being superinduced upon the latter; and the doctrine of the creation of the world by one Supreme Being, if we may trust what seems to be good authority, was by no means so little known among other ancient nations, as the above remarks would lead one to think.

In attempting to explain the separation of light from darkness, and the bestowing upon the earth the alternation of day and night before the creation of the sun, the falling of whose rays upon only one half of the earth's surface at a time now occasions this alternation, the author assumes that the diurnal rotation of the earth upon its axis is distinct from its annual motion round the sun, and independent of it; asserting, by way of corroboration, that the moon has no rotatory motion. With regard to the moon, astronomers say otherwise, that it revolves upon its own axis once in each lunation; and the author subsequently admits this. As to the rotatory motion of the earth being independent of its ordinary motion, it may be so, but we do not see how it has been discovered, or how proved. We should think the laws of physics would lead to a contrary conclusion. Let a globular body be launched into free space, with an attracting force acting on one side of it with sufficient power to deflect its course from a straight line to a curve, and to compel it to revolve in that curve round the centre of attraction. Such a force would necessarily act upon the side of the body nearest to it with more power than upon the side most remote; the effect would be like that of friction on one side, a greater retardation of the nearest side, and a consequent revolution of the globular body upon its centre. The rapidity of this revolution or rotation would be in some proportion to the velocity of the body and its quantity of matter. Hence the earth's rotation seems to be the necessary consequence of its revolution round the sun; and it is rather too much to assume, that it is independent of it and was prior to it, in order to explain something, which even then is not made clear; for, in order that day and night may be produced by the rotation of the earth, it is necessary that the rays of light should proceed from one quarter, and so as to fall parallel

or nearly so upon the earth. How these conditions were fulfilled before the creation of the sun, we have no intimation.

The author falls into another inconsistency connected with this subject of light in explaining the creation, on the fourth day, of the sun and moon and stars; since he advances the opinion, that this creation of the stars refers only to the planets of our solar system, leaving us to suppose that the fixed stars may have had an anterior creation. At the same time he states, that there is every reason to suppose that their light, that is, the light which they emit, is the same as our light; yet light was the creation of the first day, and either these countless suns of other systems, as we presume them to be, were rayless, and all space was in darkness, or they were not of an earlier creation, and the energy of the Great Author of all things must be believed either to have been employed in works of which we can have no conception, or to have been unemployed till within the comparative instant that has elapsed since our creation.

On page 56, mention is made of the "regular diminution of gravity as we proceed from the equator to the poles." Other books say that the attraction is greatest at the poles, and diminishes as we proceed towards the equator, and that it requires a longer pendulum to beat seconds at the former, than on the latter.

According to Genesis, the creation of vegetables took place before the creation of the solar system, of course before the variations of seasons; and this Mr. Turner maintains to be exactly what should have happened according to our present knowledge, because, "instead of requiring the sun's light to germinate, seeds and plants must be sowed and placed in darkness before they begin to vegetate." He seems here to overlook two things, the first is, that by the account he is explaining, light and the alternation of day and night took place after the first day and prior to the sun's creation, the same as afterwards, and secondly, that seeds and plants have been in the habit of germinating since the sun's creation, which does not appear to have been a bar to it, and therefore his reason for their prior creation does not seem very cogent, independent of the contradiction in which he involves himself. Yet, he says, "this exact placing of the vegetable formation and first germination is another test of

the authenticity of the Hebrew Cosmogony, which random fiction could not have stood."

In discussing the formation of the seas and dry land, the author remarks upon the circumstance, that geologists have noticed many phenomena which appeared to them incompatible with the account given of the time spent in the creation, since as far as could be judged from effects now known to be produced by the operation of the causes which to all appearance must have produced these phenomena, hundreds of years would be wanted where only one day was assigned. Here Mr. Turner appears to us to evade the question at issue, not denying the facts observed or the general character of the inferences as to time; but because various investigators advance various, and in some respects contradictory, theories with regard to the mode in which causes operated, or effects were produced, he concludes, that the right theory has not been discovered, and that the phenomena are not justly understood, and hence continues "in the belief, that whatever is true in fact and correct in inference will in the end be found to be not inconsistent with the account of Moses, nor with the common meaning of the expressions." It seems to us a singular way of getting over the difficulty, and amounts to saying, "I hold a certain opinion upon faith; you have by investigation discovered many things tending to show its incorrectness and apparently incompatible with it; yet as you do not agree among yourselves what opinion as a whole should be substituted instead of mine, I believe none of you to be right, and without gainsaying your facts and particular inferences, shall feel justified in believing that they will ultimately support my opinion, though they now oppose it."

When proceeding to illustrate the creation and diffusion of vegetation, Mr. Turner observes (page 169), that "we do not know what was the precise state of the surface of the earth when the command was given for vegetation to arise,—whether the whole mass retained that globular level which its primeval rotation would cause its upper and external fluidity to assume, or whether the mountains arose from its abysses before vegetation began." Yet the separation of the seas from the dry land had taken place before the command was issued for the commencement of vegetation, and the explanation apparently admitted by the author as to the mode in which that separation was accomplished is, that by the up-

heaving of the mountains and elevated lands of the continents above the line of globular level a space was made for the waters to retire into and form the seas. There is a dilemma here which the author seems anxious to avoid. If the dry land and the seas were separated, while the globular level of the earth remained unaltered, we have no information in the record, as to the formation of the mountains and elevated lands, of the prodigious efforts which upheaved the molten and semifluid materials of the primitive rocks, rendering and lifting with them the superincumbent strata, and forcing the crystallizing masses of granite and the stratified layers of gneiss through the ruptured crevices and far above the elevation of the dislocated masses,—certainly no insignificant part of the creation of our globe as it has always been known to exist. If the mountains were raised up at the time of the separation of the dry land from the water, then some account must be found for the deposition of all the secondary strata containing organic remains and materials once constituting such, upon these very mountains, in situations evidently not those of their original deposition, but where the natural position of the strata has been disturbed by the upheaving of the primitive materials that constitute the highest peaks and central mass of the mountains, and descend below these secondary strata. The strata could not have been raised with these mountains consistently with Genesis, since they contain the remains of living things not then created. They could not have been deposited upon the mountains in their present state, consistently with the laws of physics now existing, and no account given of the Deluge, affords us any means of accounting for these strata either in their structure or position. Here again the author appears to have evaded the question in order to avoid this dilemma.

Yet a little after (page 188), he states that there is "much probability that the first state of our habitable lands was that of small islands amid a mass of surrounding seas." "In the recession of the waters it is very likely that the higher grounds, the mountain regions, certainly, would at first be like islands." This would seem to intimate that the mountains were formed under the water, and he goes on to speak of vegetation, beginning on such islands as were first uncovered, thereby making the separation of the dry land from the waters a gradual process, and not the work of a day as we should naturally imagine from Genesis.

The author admits the propriety of referring the origin of coal to former vegetation buried beneath accumulated masses of stone and earth in after convulsions of the world. This vegetation he refers to the period between the creation of the world and the deluge. Now the vegetable remains found in coal, and they are numerous, he admits to be principally of the Cryptogamous kinds, reeds, ferns, and grasses of enormous size, and of species many of which no longer exist, but little or nothing approaching to the materials that compose our forests; yet he somehow or other comes to the conclusion, "that a considerable portion of the ancient Flora resembled our own in its general dimensions and appearance." Such a conclusion seems indeed necessary to agree with the belief that all kinds of vegetation now existing were created on the third day; but it does not seem warranted by the vegetable remains that exist referable to that early period.

Another difficulty is, that by his theory, there seems no way of accounting for the different strata containing organic remains. Thus he says (pages 183-186), that "on the rocks whose masses destroyed the first plants and remained upon them, the next vegetation would of course appear. This seems to have been of marine plants, that imply that the waters of the sea were inundating the land. As later rocks in that period of convulsion and agitation formed on the preceding masses, another vegetation appears,—remains of plants of a somewhat different kind from the primeval are found. Though distinct plants from the preceding ones, they greatly resemble them, and indicate a lower temperature, and that the sea was no longer invading the land. The last period and kind of vegetation which the buried remains disclose, is comprised in the whole series of tertiary formations; all this last vegetation taken in the whole was composed like that which now covers our surface, with numerous and very varied plants analogous in their families and genera to those which are still subsisting upon it." Now the only recorded convulsion that can have altered the general state of the earth's surface since the creation is that of the deluge, which from the time that Noah entered the ark till the dry ground appeared, may be estimated at about a year. One hundred and fifty days are stated as the time that the waters prevailed upon the earth. With this one convulsion, and in this short time we have, according to our author's own showing,

to account for, 1st, the overwhelming of the primeval vegetation ; 2d, the formation of beds of stone over these, consisting of shale or slate, and we believe sandstone, according to the author, though his expressions are not very definite ; 3d, the vegetation and growth of marine plants upon these ; 4th, the destruction and envelopement of these by the formation of other beds of stone of two distinct kinds, viz. magnesian limestone and new red sandstone ; 5th, the formation upon these of several new strata " from the lias to the chalk," enveloping the remains of another and distinct vegetation of land plants ; 6th, the formation of the whole series of tertiary formations, usually and peculiarly assigned to the deluge, and called by the distinctive appellation diluvial, destroying and embracing the vegetation of a third period and kind, also belonging to dry land, and apparently to land more peculiarly dry than that, which produced the vegetation of the other periods. How all this took place in less than a year and by one simple deluge of the earth, we cannot comprehend, and our author here again evades the question. Yet these are not all the things to be surmounted ; for under the coal are beds of limestone, as Mr. Turner elsewhere admits, containing vegetable fossils, and apparently formed from organic remains completely disintegrated, giving a seventh formation to be accounted for. From the accounts given by geologists we might find various other things to be accounted for, such as the deposition in alternate superincumbent strata, apparently remaining undisturbed or nearly so, of salt-water and fresh-water sediments, and other matters equally perplexing ; but it is sufficient for our purpose to judge the merits of the book for the most part by its own contents, without even employing the copious notes containing extracts from various scientific writers, geological and others.

In treating of the creation of animals, and the various facts brought to light by geological research concerning the organic remains found in the various strata above-mentioned, showing that many wonderful forms of animal creation, as well as of vegetables, have disappeared from the earth, the author involves himself in difficulties of a similar kind with those just pointed out with regard to vegetable remains. He again avoids entering into details, and again evades the question of difficulty by adhering to his faith in defiance of it, glossing

over the whole inconclusiveness and contradiction, by asserting that, "there is no incongruity between the Mosaic account and these geological facts," and fairly jumps over all debates of *how*, *when*, and in *what time*, by the following summary :

"After announcing the production of the Atmosphere, the separation of the seas, and the creation of the vegetable and animal kingdoms, the Mosaic record makes no allusion to the state of the earth until the catastrophe of the deluge. This interval was at least a period of one thousand six hundred and fifty-six years, and therefore allows that space of time for all the formations between the primordial and the tertiary ; the violent changes that occurred at the deluge seem to be mostly connected with the tertiary geology."

It is true, no allusion to any great convulsions of the earth is made, but there is an account of various generations of men and their multiplication in number, and their increase in the knowledge and practice of the arts, and in luxury and sin, till "the earth was filled with violence," as if nothing had happened to disturb them in their course. Yet, in this period Mr. Turner would place all the destruction and production of three different vegetations of land plants, of different classes of animals, and the formation by deposition from the waters covering them, of the different strata of secondary rocks, besides requiring time enough for the formation on one of them of a growth of marine vegetation. Such a succession surely was enough to make that period what he has elsewhere unwittingly called it, "a period of convulsion and agitation." Of all this Genesis contains nothing, but much that seems contrary. The author surely travels out of his record in making such a supposition.

Somewhat similar difficulties are to be found in the discussion of the creation of man and his relations to what has been developed by science of his connexion, or rather want of connexion, with the animal and vegetable remains contained in the various strata of the earth's surface. In short, amid the chaos of geological facts and theories there is but one thing that appears to us clear, which is that, with such knowledge as we have of them and of the relations of cause and effect by which they might be produced, it is utterly impossible to reconcile them with a literal and at the same

time philosophical understanding of the book of Genesis. He who would hold to such an understanding must do it in defiance of the results of modern researches, and would do well to get rid of all difficulties by believing with Chateaubriand, who avers in his "*Génie du Christianisme*," that the world was created old, and that in Paradise on the first day of their creation there were old trees with old crows' nests upon them.

Mr. Turner, we cannot but conclude, has completely failed in what seems to have been the main parts of his undertaking; it was in truth a subject far too mighty for him to grapple with, and the manner in which his attempt has been conducted argues more of zeal than discretion. We think he would have done more wisely, had he let it alone. A part from this attempt and the contradictions it involves, with some occasional inconsistencies in the statement of facts and principles, the work is a good one, containing a great mass of information and pleasant discussion, well written and displaying extensive and varied reading.

There is no occasion for alarm in the speculations to which we have been led. "All attempts," it has been justly said, "to extract a history of the earth and of its revolutions from the Bible have failed, and the theories remain only as monuments of the genius of their constructors." A strictly literal interpretation of the book of Genesis is not essential to the Christian religion, which, we thank God, stands upon a secure foundation. From its remote beginning, through its Jewish precursor, in the calling of Abraham, down to its final establishment, the evidences of its truth rest within itself, supported by the light of contemporaneous history in its various successive periods. It would stand, though the book of Genesis were obliterated from existence and memory. Yet to the latter we ascribe much value; we consider it as stating in exact truth that God formed the world and all creatures therein, and the heavens and all the various luminaries that are there; that it gives a true general and philosophical account of the creation, also of the early history of the human race, made allegorical by generic terms being in some instances taken as proper names. In particulars of time, in order of enumeration, in fullness of detail it appears to be deficient. It seems to be the imperfect gleanings of tradition, containing indeed great truths, but not all truths, nor always complete truths.

ART. VIII. — *Dialoghi disposti per Facilitare lo Studio della Lingua Italiana*. Scritti in Francese da A. G. COLLOT. Tradotti da F. MANCINELLI, Romano. *Prima Serie*. Philadelphia. Carey & Lea. 1832. 18mo. pp. 105.

THE increasing attention which has been paid to the Italian language, in New England, for some time past is an indication of the advancement of good learning. We have witnessed it with much satisfaction, not only because we are lovers of that harmonious tongue, but also because we are convinced that every accomplished scholar must derive great advantage from a familiar access to the treasures of Italian literature. It is pleasing to find likewise that no less importance begins to be attached to the study of Italian in other parts of the Union, and that new books are daily called forth from the press for its easier attainment.

It was with this, and with no other disposition, that we were led to examine the "Dialoghi" just published in Philadelphia. The book contains twenty-five dialogues, originally written in French, by A. G. Collot, in order to facilitate the acquirement of that language, and translated into Italian by F. Mancinelli, *Romano*, with no other alteration, perhaps, than that of *Langue Française* into *Lingua Italiana* in the first page, and the word *Français* into *Italiano* here and there through the volume. And although the bad collocation of the words in the title-page might have been sufficient to lead us to judge of the style of the translation; yet, prepossessed by the *Romano* which we saw appended to the translator's name, we condescended to overlook it and passed with impatience to examine the contents. But what was our astonishment when instead of the beautiful "lingua Romana," which we naturally anticipated, we found the miserable and barbarous jargon into which the "Dialoghi" are rendered, and the inaccurate manner in which they are printed. We must confess, we could not help feeling a deep sentiment of compassion for the author of the translation, and of regret for the press from which it issued; and would have willingly shut the book and consigned it to the oblivion which its utter worthlessness deserves, had we not observed that Mr. Mancinelli thinks, that because, perhaps, the origi-

nal might be of some use in acquiring a knowledge of the French, his imperfect and uncouth version must necessarily be of utility in the acquirement of the Italian language. Believing him then honest in his opinion, we have thought it our duty to undeceive him, and candidly to inform him that his "*Dialoghi*" are very far from corresponding to the purpose which they are intended to accomplish, and that, in the manner in which they are translated and printed, they cannot fail to excite the ridicule of the Italian scholar, and to retard rather than to facilitate the progress of a learner. Lest we should be charged with uttering unfounded opinions, we shall give the reasons which have led to the conclusions which we have thus freely declared.

First, it is a bad plan (admitting even that the book is well rendered) to undertake to teach a language by means of a translation from a foreign work; particularly if that purports to teach a language whose idioms are so different from those into which it is translated, as are the idioms of the French from those of the Italian.

Secondly, the language of this translation is incorrect and barbarous. We need not quote any particular instance to prove the truth of our assertion, — the whole book will bear testimony to it, — but we will call Mr. Mancinelli's attention to the following sentences:

"Voglio ancora io *studiare aspettandovi*." p. 10.

"Il vostro dovere non sarà a *perfezione*." p. 11.

"Andate per vedere cosa?" p. 25.

"Perché non siete in fretta di cosa?" p. 26.

"E tempo bastante di tenermi in inquietudine." p. 41.

"È ancora parlando ad un uomo in strada." p. 53.

"Era sovente caricato di *pensi*." p. 64.

"È alla gente della mia età di *svegliare* i giovani troppo dormiglioni." p. 80.

To these we add the following Gallicisms:

"Non ne hò più di quello che mi bisogna." p. 9.

"La farete ancora una volta." p. 19.

"Sono bene così." p. 32.

"Potete considerarvi come *attaccato* alla casa; — i vostri *appuntamenti* ascenderanno a cinque mila franchi." p. 36.

"Proporrò fargli il suo ritratto, — e quello della moglie per fare *pendant*." p. 49.

"E di poi quando sei qui?" p. 63.

"Ho riunito una sufficiente fortuna." p. 65.

"La società e tutta riunione di uomini viventi insieme." p. 97.

"La probità difende il desiderio del furto." p. 100.

Thirdly, the grammar of this translation is false. We meet in almost every page with errors similar to these :

"*I* spiriti." p. 51. "*Dei* spinaci." p. 22. "*Al* individuo." p. 104. "*E lui* che ha il torto." p. 36.

"Vadino a dirgli [alla Signorina Trestelle] che non ci sono."

"Gli [alla Signorina] hanno di già detto che ci siete." p. 53.

"*I difetti* di quasi tutti gli autori è di stancare il mondo colla lettura delle loro opere." p. 76.

"Non fà ad altri il male che non vorresti a te fatto da loro." p. 100.

Fourthly, there are many words which are very improperly used ; as, "*giacché*" for "*perché*," "*perche*" for "*poiché*," "*questione*" for "*dubbio*," "*dispiacente*" for "*dispiaciuto*," &c., and others which are either vulgar or erroneous ; as "*ero*" for "*era*," "*volevo*" for "*voleva*," "*saressimo*" for "*saremmo*," "*avressimo*" for "*avremmo*," "*agimo*" for "*agiamo*," "*vadino*" for "*vadano*," "*gabbola*" for "*cabala*," &c.

Fifthly, the orthography is horrible. Besides such expressions as "*gl' occhi*," "*in strada*," "*non scherzo*," "*miglior scelta*," &c. ; words which ought to have been printed with an apostrophe are left without, as, "*un ora*," "*un opera*," &c., while others which never require it are printed with the apostrophe, as, "*un' invito*," "*un' altro mezzo*," &c. Words that never are written with an accent are here sometimes marked with the acute accent, sometimes with the grave, and sometimes with the brief quantity ; *é* (and), *né* (of it), *vi*, *ré*, *vá*, *mà*, *stà*, *sà* and *sà*, *há* and *há*, *tré* and *trè*, *sò* and *sõ*, *nò* and *nõ*, *hó*, *hò*, and *hõ*, &c. Others which require the grave accent over their last vowel, are either left without it, *si* (yes or thus), *e* (is), *ne* (nor), *la* (there), *più*, *qui*, *già*, *può*, *così*, *perche*, or marked sometimes with the acute accent, *sì*, *é*, *né*, *là*, *più*, *già*, *caffé*, *perché*, *saró* ; sometimes with the brief quantity, *è*, *può*, *caffè*, *sarò*, *darò*, and sometimes with the circumflex accent, *ê*, *sarô*, &c.

We forbear speaking of many other faults and defects, lest

it should be thought that we attach more importance to the book than in fact it deserves. We would add merely that if with all its faults, like those we have pointed out, the book shall prove to be of the least advantage to any learner, we shall be the first to confess to Mr. Mancinelli that we have been grossly deceived in the estimate which we have made of its value.

From the title of the volume we are informed that this is the "Prima Serie" of a course of books for the study of the Italian tongue; and we earnestly desire, unless Mr. Mancinelli, *Romano*, can furnish us with a better work, that his progress may stop here. But should he be determined to favor the public with the "Seconda Serie," we would by all means recommend it to him to follow the advice of the "Ignorante arricchito," in his Seventh Dialogue, that is, to ask some "Filosofo" to teach him "*prima l'ortografia*," — first the *orthography*, "*e dopo a scrivere la lingua*," — and then *how to write* the language.

ART. IX. — *The Practical Tourist, or Sketches of the State of the Useful Arts, and of Society, Scenery, &c. in Great Britain, France, and Holland.* By ZACHARIAH ALLEN. Providence. A. S. Beckwith. 1822. 2 vols. 12mo. pp. 363 and 428.

"So help you God, — kiss the book, — give me a shilling." These words, says the "Practical Tourist," were poured out in an uninterrupted stream by a Liverpool custom-house clerk, during the delirium of fever. It had been his way, during his healthy hours, to hurry over the solemn and the pleasing duties of life in one breath, just as the "Practical Tourist" hurries through all scenes and places. But the demented clerk had one advantage over our author; he did his duty off-hand; it was a business-like way, — all practical. There is nothing like that, in the volumes before us; these are "got up." The title, "Practical," is misplaced. We are inclined to think that the word was prefixed at the suggestion of a bookseller, a "trick of the trade." The author is above it in purse, we hope too in spirit. We were beguiled into reading the book, by its taking title. Any thing "practical" coming from Mr. Allen, we felt must

be valuable. He had long ago won our good opinion by his very deservedly popular book, "Mechanics for Practical Men." It was therefore with heart-sinking that we found in the work before us, that in 1825 its author had "crossed the Atlantic to examine the effects of the important improvements in machinery upon the state of society at the present day"; a very praiseworthy and philosophic object. In these practical days, when the attention of the whole world is excited, rivetted, clinched to matter, turning, torturing, twisting, and coercing it to undergo countless shapes, and to move in and be moved by machinery in endless variety, it certainly shows not less of moral courage, than of philosophy, to turn from these things, and to ascertain the effect of all this mighty mass of moving matter upon mind, on man. It is a subject, however, the last in our conception of the word "*practical*." It seems, too, to have had quite as little space in our author's ideas. Besides, in no country are the effects of machinery on the mental powers and moral state of man to be studied so practically as in our own land. England has been foremost among European nations in introducing labor-saving machinery; but even there this step is taken slowly and with dread. Our author need not, therefore, have made himself sea-sick to learn the condition of society, as affected by improved machinery. Some of the fruits of this voyage have been already given to the public in newspaper essays; and now at the seventh hour, or rather seventh year, we are furnished with a medley of facts, opinions, moral reflections, political speculations, anecdotes, statistics, old saws, hackneyed stories, steam-engines, steamboats, engineering, machinery, descriptions of scenery, history of manufactures of cotton and of wool, accounts of christening, beggars' funerals, and hunting, and horse-racing, and coal mines, and cemeteries, habits and manners, cathedrals, dissecting-rooms, temples, palaces, cottages, houses, castles, grottos, skeletons, groups of statues, vases, bowers, flowers, pavilions, canals, and rail-roads, and diligences, mills by water, mills by steam, mills by wind, mills by horses, mills by hand, all mixed up with the account of the author's dangers and escapes, real and imaginary, dealt out too in all kinds of style, good, pure, chaste, spirited, lively, bombastic, sophomoric, ambitious, affected, and tedious, with occasional showers of magnificent bathos, and withal such an outpouring

of patriotism, in the never-ending comparisons between the things and land over the water, and the author's own happy country, with such an account of Americans and their customs, their machinery and manufactories, always better than any body, any place, any thing else, that we are fully of the opinion, that the word *American* must have been struck from the title-page, for the same reasons that "Practical" was prefixed. We have paid our shilling, and are ready to kiss the book, for it comes to us in a very respectable and clean dress, quite creditable to the Rhode Island press. It has amused and instructed us. Great credit do we thus give to the author; for as we are supposed to know every thing, it can be no vanity in us to say, that we know almost as much as others think we do, since we have read the "*Practical Tourist*." The descriptions of scenery, habits, manners, &c., are such as all travellers give us; but there is freshness, and an air of truth, in those of our author. He has gone out with a good talent for observing men and things. He visits all places on and under the earth, mixes with every body, and sketches the character of whatever he meets, with great discrimination, and just, without sweeping, assertions. He has too that happy disposition of a traveller which compels him to be pleased, almost in spite of himself; gratifying an unbounded, restless curiosity at the expense of shattering his nerves, and endangering his brains. Our readers will not, therefore, expect from us any account of this portion of the volumes before us. We refer them to the work, or if that is not at hand, to any honest traveller who has published his account of England, France, and Holland. There are, however, some points, where our author's honesty or simplicity has carried him beyond and below any other traveller, or perhaps he has resided so long in countries where no drapery covers the nakedness of cherubim, that he has forgotten the taste of his countrymen. There are some bare descriptions and allusions which we should not dare to read aloud.

But let us hear our author on those points which were the especial object for which he "crossed the Atlantic." So late says he, as 1813, there were few or no power-looms in Manchester. In 1825, the year of his visit, there were in that place about 20,000; and Mr. Allen estimates the whole number of power-looms at present in operation in Great

Britain at 60,000. What are the effects on society of this unparalleled increase of machines, with all their attendant, varied, and intricate interest? Decidedly favorable to the best interests of mankind. This is our author's opinion, formed from observation of the actual condition of the immense masses of operatives, whether crowded in cities or scattered over valleys, hills, or plains. There is no distinct, absolute avowal of this opinion; we gather it from the whole tenor of the author's remarks.

The really practical part of the volumes before us would form of itself a very small book. We should have been better pleased, if its substance had been given to us separately, or in the form of an Appendix to the "*Tourist*." But picking it out from the heterogeneous pile under which our author has buried it, we feel bound to notice it separately from the body of the work. We advise no practical man to read this book from any supposed value of the small portion devoted to practical arts. As far as Mr. Allen goes, he is in most cases to be relied upon as a faithful eye-witness. But when we consider that the author is a scholar, a gentleman of extensive, varied, and on some subjects, deep information, a man of great weight and consideration at home, where he is engaged in manufactures; and when we find in the work before us, that from these considerations he actually enjoyed the facilities for visiting the best manufactories abroad, having letters of introduction to gentlemen who stand highest among the high in various arts, we cannot but regret, that the practical information which he gives us is so very general as to be entirely unsatisfactory, or so erroneous as to be unworthy of our confidence. We are amused by the manner in which the "practical" is constantly presented to the eye, a lure to the hasty reader. Wherever opportunity offers, the practical subject forms the running title, but in many cases, the text contains no more (in fact the same information relating to the subject) than we find in the caption of the page. It is in both cases merely named. There is a constant tendency in the author's quill to soar away from the practical subject in hand, to the confusion of the reader. In the midst of the statements relating to the comparative cost of steam and water power, and of the manufactures of Manchester, we are suddenly called to attend church, and witness the christening of fifty-three babies; and then we

are led into an essay on the want of parish records in the United States, where, in consequence of this neglect, every body is the son of nobody, and then, all fatherless as we are, we are turned at once into the immense cotton-mill of Mr. Murray, one of the most respectable and extensive manufactories in Manchester. Nor are the descriptions of processes always so orderly, as we should expect from a person less skilled in these affairs than Mr. Allen. The description does not follow the order of the process, the natural order. There is not importance enough attached to great things, and little things are magnified. McAdam roads are dispatched in two words; we are led round botanic gardens in half a dozen lines; and are taught bleaching, dyeing, designing, engraving, and calico-printing in about as many pages; whilst a very large space is allotted to the description of the author's feelings, and awkward attempts to make a cup of tea, rendering himself a pitiable man, not only in the eyes of the waiters of a Liverpool inn, but in those of his readers. We can account for this waywardness only by supposing that the broad, substantial outline of these volumes, was sketched some years ago, when the scene was before the eye, and that the filling up with these unfortunate reminiscences has been performed, as the author says, "in the midst of importunate cares, and the hurried pursuit of business." The filling up should then have been confined to practical details. There are accounts of some mechanical processes, and machinery for effecting these, the value of which Mr. Allen either did not understand, or if he did, he ought, as a friend to our manufactures, to have described so minutely that his countrymen could have seen with his eyes. We adopt the most charitable conclusion; he really did not understand their true value and importance; he saw with the "*sight-seeing*" eyes of a traveller.

Of all the subjects touched by our author, there are none where his errors stand out so broadly as on those relating to the arts depending on chemical principles. He makes no claim to the character of a chemist, nor need he; for a man may describe the steps in a chemical process, going on under his eye, without being himself a chemist. Mistakes in such a case would be very pardonable; but our author theorizes, and in such a way as to convince us that he has less knowledge on the subject, than the reader of a common chemical

dictionary. In truth, there is no chemical process mentioned, we cannot say described, by the author of the work before us, where his want of elementary chemical information is not very apparent. Alum never was, and probably never will be made in Scotland, by the process related by Mr. Allen. He forgets that alum is a compound of an alkali with sulphate of ammonia. He omits to add the alkali, although for years the whole alkali used for this purpose at the works he mentions, was obtained from that very source, which he describes under the running title, (vol. ii. page 333,) "Manufacture of Alkali." We give the account as there printed. "We saw many persons engaged in collecting the sea-weed, or *kali*, that drifts upon the beach, which they burn to make kelp, an article much used in the manufacture of soap, instead of potash. The salts termed *alkali* derive their name from this plant. The steam and smoke mingled together, ascend in sluggish volumes, from numerous piles arranged along the sandy shore, mounting high in air, before the vapor becomes dissipated, and forming graceful wreaths as the light breeze wafts it away over the waters." The wind always blows one way with some folk.

We have indulged our readers with this quotation, because it is a very fair sample of our author's way of treating most "practical" processes. They end in smoke. History records the name of many men great in arts and philosophy, who were also great fiddlers or great poets; but it is truly a misfortune for a "practical tourist" to have a teeming fancy. There is in the above short extract about the usual proportion of the errors which abound in the author's accounts of chemical operations. We leave it for learned philosophers to determine, if *kali* is the root of *al-kali* "*fæx amaritudinis*," the dregs of bitterness, as the alchemists would have it. We are quite sure that no salts in our chemistry are "termed alkali." We will not quibble about words; the most important mistake in the above short sentence is in making *potash* out of a plant, used from time immemorial for affording soda. The ashes of this sea-weed, this *kali*, may be used for making *hard* soap; potash makes soft soap; the one cannot be used "instead" of the other, if we would obtain the same results in manufacture.

If our author is not always correct in stating *how* a thing is done, he has told us what no other traveller has, *how much*

it costs to do it. He would have conferred a signal favor on our manufacturers, if he had pushed his inquiries a little farther on this subject, and had given a minute account of the cost of doing or performing each particular part in the various establishments which he visited. But in the place of this, Mr. Allen has constructed a very valuable table exhibiting the comparative rates of wages in England, France, and the United States, to which is added the price of coals per ton, and of wheat per bushel. This table has been constructed with care, and, from the author's known tact and abilities on such subjects, it is worthy of great confidence.

The difference in the rate of wages in these three great manufacturing countries, is much less than is usually supposed. Nor are the working hours less in number in Great Britain and France, than in the United States. The English law limits labor, in factories, to twelve hours for five days in the week and nine hours on Saturday. If the work has been stopped to repair an engine, &c., then the law allows, and the operatives gladly perform, twelve hours' work on Saturday.

Among the very best practical fruits of our author's excursion, is his importation of a hamper of madder roots from Holland. These have flourished well for four years' and have furnished numerous roots to people disposed to attempt the cultivation of this invaluable dyeing drug. The New England climate is well suited to the production of madder. Its annual value for home consumption will soon amount to some millions of dollars, in the opinion of Mr. Allen.

Nor do we account least of his practical exertions, the act of procuring from the Bodleian library, for publication, a transcript of a rare book by Roger Williams, on the Indian habits and character, as those were observed by him, when he found a resting-place for the sole of his foot, among the sons of the forest. But more than all, the great practical lesson taught in the volumes before us, is love of country,—love of our own happy institutions,—love of our existing manufacturing establishments, with all their perfect system of police, hours of labor, and domestic arrangements,—a system which has converted our manufactories into nurseries of virtue, and raised the character of our operatives above suspicion. In no country are mechanics or laborers better paid; in none does their money, their earnings, purchase for the

same sum such an amount of the necessaries of life ; in none are the luxuries of life so easily or so much enjoyed, so securely possessed, so well secured in the possession, as in America. Nor is there any country where the solid comforts of the producing classes have been so well studied, and so well provided by the capitalist, as in New England. The consequence is, that among our operatives there is a higher sense of character, a standard of morals more elevated ; and the effect of such a population is healthy on the community. There is actually less intemperance among our working-men, with all their facilities for gratification, than among these classes in Europe. According to Mr. Allen, the Englishman with his beer and the Frenchman with his wine, are more prone to intemperate drinking, than the American with his rum. They require, and, in bodies, actually seek longer and deeper potations, with all the excitement of company, and midnight carousal, to work themselves up to the point of beastly intoxication ; a longer process to arrive at the same result, which the American reaches at one draught. The effects too of muddling beer are more enduring, more ruinous, than those of the liquid fire which the American laborer swallows.

The Frenchman, and in some cases the Englishman, walks miles to his daily work. His scanty dinner of bread and sallads is eaten under the shade of a tree, or his meat is cooked at the end of a stick, thrust into the first fire which is met, and is hastily swallowed in the dust of a boiler-shed. With few exceptions in England, with none, we believe, in France, there are no dwellings, houses built for the operatives, and clustering round the walls of the manufactories. The consequence is, that there is actually less of the enjoyment of domestic life, for those whose home is an earthly heaven, than for those, who like our own workmen, have their tenements under the sound of loom and spindle.

We would, therefore, recommend this work to the serious and especial consideration of those who would sacrilegiously break in upon, and break up, the present order of things ; who would open the sluices of idleness, deluging our land with slime, the fertile hot-bed of all that mass of misery of which, our author says, no description can convey to us any adequate conception.

We should be happy to indulge our readers with some

extracts, both "grave and gay," from this book; but we must now conclude, with recommending it as worthy to be read by those who seek amusement; and it is worth buying for the "Comparative Table" alone, to which we have alluded.

ART. X. — *The Principles of Medicine; founded on the Structure and Functions of the Animal Organism.* By SAMUEL JACKSON, M. D. Philadelphia. Carey & Lea. 1832. 8vo. pp. 630.

DR. JACKSON'S work presents an example of a mode of treating the theory and the practice of medicine which has been adopted within a few years by writers of great eminence, and which appears consistent both with sound philosophy and practical usefulness; that of describing the healthy state of a function or tissue, as an introduction to an account of the diseases incident to it. Dr. Good in his "Study of Medicine," at present the best text-book for the student which we possess, adopts this principle; and considering all diseases as consisting in the derangement of some function, prefaces each of the six classes into which he divides them with a physiological proem, or an account of the function whose disturbance constitutes the class in question. These functions are arranged by Good in the following order: 1. Digestion; 2. Respiration; 3. Circulation; 4. The Nervous Function; 5. Generation; 6. The Excrement Function. The classes thus formed are divided into orders, genera, and species, which last are the diseases themselves, as they are commonly distinguished from each other. The simplicity of the principle of classification, and the regularity of the subdivision, impart to this mode of considering the subject great apparent clearness and elegance. In its application, however, to diseases as they arise, it is found to be attended with some embarrassment. In fact, there are morbid states of the system, which though they may remotely arise from impaired function, are immediately the result of alterations in the character of the solids or fluids, and are most conveniently considered in connexion with these. In the second place, the derivation of diseases through orders, genera, and species, supposes a subdivision too minute for some diseases, and not sufficiently so for others; so that while some instances occur of genera having

but a single species, in others the species must itself be divided and the distinct diseases appear as mere varieties.

A striking example of the contradiction involved in so exact a system as that of Good may be found in the division of his third class, *Hæmatica* or the diseases of the Sanguineous function. The first and second orders of this class, which consist of fevers and inflammations, are perfectly appropriate. The third or eruptive fevers may also be admitted. But in order to the completion of his plan it was found necessary to place in a fourth order a number of genera, the connexion of which with each other and with the class itself is by no means so obvious. Such are plethora, emaciation, hemorrhage, scrophula, lues, elephantiasis, scurvy, gangrene, and ulcers, a somewhat motley group, which rather deform the harmony of the system.

There are, however, in Good's system, and in his manner of applying it, certain advantages which the student of medicine at once finds it easy to appreciate. The simplicity of the classification, and the exact manner in which the subdivisions are presented furnish, important aid to the memory, and the actual knowledge of the diseases to which the frame is subject may be better acquired in this than in any other mode. Farther, it is to be remembered that diseases are known to us by symptoms which they present, and which are appreciable by the senses. In this sense the symptoms are said to constitute the disease. Beyond the symptoms every thing is more or less a matter of conjecture. To give to these conjectures a greater degree of probability, and to trace out the laws which connect the symptoms with the unperceived changes, has been and continues to be the favorite object of the pathologist. But notwithstanding the efforts which have been directed to this object, this part of the science may be regarded as almost in its infancy. It is the symptoms of the disease which we perceive, and it is by these that we must in a great measure be governed in practice. Now these symptoms are for the most part functional derangements. The functions can be perceived, and the regularity with which they are performed can be, to a great extent, estimated. On the other hand, the changes which take place in the solids and fluids of the system elude, to a great extent, our powers of observation. We have not opportunity to analyse all the fluids. The changes which take

place in the serum, in the bile and pancreatic fluids, are only casually and occasionally made known to us by observation; those in the nervous fluid never. The fact is still more striking as respects the tissues, which, with the exception of the cutaneous and some portions of the mucous membrane, are equally unknown to us by actual observation. Descriptions of diseases, therefore, founded on the changes which take place in these structures, must necessarily wear an aspect of vagueness and uncertainty; while those founded on the changes which take place in the functions are easily recognised by the observer, and give exactly the information which was intended to be conveyed.

The great defects in Dr. Good's work, considered as a union of physiology and pathology are, the brevity and incompleteness of his physiological descriptions, which are arranged in proems to the different classes, and the neglect of many of the most important facts which belong to the recent investigations in pathological anatomy. That the basis of the work is not anatomical, affords indeed a rational mode of accounting for the omission of these details, but does not excuse it. The truth is, that when the first edition of Good's work was published, attention had but just begun to be turned to this important subject; and in this respect the work is decidedly in arrear of the existing state of the science.

It is in regard to these points that the work of Dr. Jackson possesses decided advantages over that just named, and perhaps over any general medical treatise which has appeared in Great Britain or in this country. Here physiology, instead of playing a subordinate part, decidedly takes the lead, and is allowed its full share of respect and attention. The most recent discoveries both in this department and that of pathology are carefully noted; and even those unfinished investigations, which as yet have furnished no positive results, receive their due share of attention. The work may be regarded as consisting of three parts. The first part is a treatise on general anatomy, or an account of the several systems or tissues, with the morbid affections to which they are severally subject. His division of these corresponds generally to the plan of Bichat, but is less minute, and therefore better adapted to the consideration of diseased alterations in which several tissues, provided the minuteness of

the division were extreme, would be found to participate. The Second Part is a description of the fluids both in their normal and their morbid condition. These are considered as threefold, the humors of absorption, the nutritive, and the secreted fluids; and each of these likewise presents its pathological state. The Third Part relates to the functions, and occupies by far the larger portion of the work. The functions are, 1. those necessary to the life of the individual, and 2. those whose purpose is the preservation of the species. The former are either functions of nutrition or functions of relation. The first are, Digestion, Respiration, Circulation, Assimilation, Secretion, Calorification, and Innervation. The second are, Sensation, Intellect and the Moral faculty, Locomotion, and Expression. These too have their healthy and their morbid state. According to this plan it will be perceived that diseases are referred to as depending in a greater or less degree on the pathological or morbid state of the tissue, the fluid, or the function under consideration. Neither a formal nomenclature, nor systematic definitions, enter at all into the plan of the work. Names are either altogether omitted, or introduced as if their popular signification were already known to the reader. It follows from this, that the reference to a disease is sometimes two or three fold according as two or more morbid changes are involved in it. In general, however, the description of a malady occurs under one head, that of the pathological state in which it is supposed principally to consist. These descriptions however are generally very brief. Thus asthma occupies five lines and epilepsy six. Neither colic nor dysentery are expressly described, and there is only a passing allusion to spasmodic cholera. It is evident, therefore, that the work cannot be intended as a substitute for the systematic treatises in use on the subject of practical medicine. To describe the groups of symptoms which constitute diseases as they are presented to our observation, to trace the successive aspects which they assume in their progress to a favorable or a fatal termination, and to prescribe modes of treatment adapted to each, are objects which do not enter into the plan of the work.

With respect to the manner in which Dr. Jackson has executed his task, we will only say that the work contains some of the best articles on physiology and general pathology which we have seen in print. The facts are stated with

great care and accuracy ; the conclusions are deduced with circumspection, and those general principles stated which are thoroughly established, without that hasty and premature generalization which has been to the discredit, and which has ultimately proved the disgrace, of so many systematic works on this subject. The nature of the work leaves little room for highly colored description ; but where occasion offers, the delineations are highly graphic, and executed with much spirit and good taste. For general readers, the chapter on the Senses, that on the Voice, and the article on Sleep and Dreams will probably possess the most attractive interest. The moral tone of the work is pure and elevated, a circumstance deserving of mention in connexion with a subject so often charged with inspiring loose views on moral and religious subjects. To the student of medical science who aims at acquiring exact habits of reasoning and a correct mode of investigating, no work can be recommended with more confidence. The author has a just claim to the respect of the public, and to the gratitude of that profession of which he is a distinguished and honorable member.

ART. XI. — *Report of the Case of Alleged Contempt, and Breach of the Privileges of the House of Representatives of Massachusetts, tried before said House on complaint of William B. Calhoun, Speaker, against David L. Child, a Member. With Notes by the latter.* Boston. Carter & Hendee. 1832. 8vo. pp. 152.

WE take occasion to notice this pamphlet, not so much to express an opinion upon the difficult and delicate subject of *contempts*, and the respective rights and duties, powers and privileges of the Legislature and its individual members, as to give a brief account of the course and termination of the trial. The origin of the complaint made by the speaker will appear by the following extract from the pamphlet :

“ On Saturday morning, January 28, 1832, the following article was published editorially in the ‘ Massachusetts Journal and Tribune.’

“ ‘ In the House of Representatives yesterday, Mr. Child of Boston submitted an order for inserting upon the Journal of Tuesday, the following paragraph, viz :

" 'The Speaker having announced a number of bills as on their passage to be enacted, Mr. Child of Boston moved that the House adjourn, which motion the Speaker decided to be out of order.'

" 'Mr. Child considered the decision of the chair incorrect, and its importance induced him to move the above order. He thought it ought to be entered on the journal.

" 'The Speaker insisted that the decision referred to by Mr. Child was correct, and agreeably to parliamentary usage. The order of Mr. Child was opposed by Mr. Brooks of Bernards-town, and finally rejected by an almost unanimous vote.'

" 'The above is from the 'Daily Commercial Gazette,' and a correct representation, except as to the *unanimity*. We *know* that a *considerable number* of the oldest and staunchest men in the House voted in favor of the proposition, and that many approved it who did not vote at all. The mover, however, would not have been ashamed or afraid to stand up *alone* on this question, or any other where he thought it was *right* so to do.

" 'The Honorable Speaker did not pretend, in the defence of his proceedings, to deny the fact stated in the above motion. It is notorious and undeniable that there was *no motion* in the act of being propounded, when the motion was made to adjourn; and that it was not *by rule*, but a *violation* of rule, that the Speaker rejected and suppressed that motion. This was sufficiently arbitrary, but he did not stop there;—he ordered the clerk to suppress it in the records, apprehensive, perhaps, that his ground was untenable. If he was convinced that the mover was *wrong*, and himself right, what objection could he have to the record?" pp. 3, 4.

The object of Mr. Child in his motion to adjourn, as he states, "was to prevent the passage of laws while the House was in a state of confusion and inattention, consequent upon rising from the Committee of the Whole, after a long discussion of the Amendment of the Constitution." The Speaker decided, that a motion to adjourn was not in order when a question was about to be put by the chair. This decision was not appealed from. Mr. Child, on the other hand, stated that when he made his motion, there was no motion in any manner before the House, but only a general annunciation from the chair that there were several bills to be acted upon. On the Tuesday following the publication in the "Massachusetts Journal and Tribune," charging the Speaker with violation of rule, arbitrary conduct, and suppression of the

record, the Speaker brought the subject before the House, and complained that Mr. Child, instead of appealing from the decision referred to, had made an appeal to the public through a paper of which he was editor. After a discussion of an earnest and somewhat angry character, the subject was referred to a special committee, who proceeded in the examination; Mr. Child appeared before them, and objected to their jurisdiction, and also to any constitutional authority in the House of Representatives to take cognizance of *any* action of its members without the walls of the House. The Committee overruled the objection to their jurisdiction, and examined some twenty witnesses, members of the House, summoned by Mr. Child, and heard him fully in his defence. In their report they sum up briefly the testimony of the witnesses, and declare it as their opinion, "that the Speaker was in the act of addressing the House when Mr. Child made the motion to adjourn"; and that the allegation, "that the Speaker *ordered* the Clerk to suppress the proceedings of the House, was contradicted by the testimony of the Clerk of the House, who

"stated, that after the adjournment, he asked the advice or opinion of the Speaker, with respect to the propriety of entering upon the journal, Mr. Child's motion to adjourn, and the decision of the chair, and the Speaker advised him that it was one of the trifling, unimportant, and every day occurrences, or something to that effect, which was not required to be entered on the journal; that he followed his advice in the same manner as he should follow that of any other person experienced in legislative proceedings, whom he might think proper to consult; that if the Speaker had advised him otherwise, he thought he should have entered it; that he did not consider the Speaker's answer as an order, but as merely advisory; and that he did not then, or at any other time, receive any orders from the Speaker, relative to keeping the journal of the proceedings of the House." pp. 19, 20.

The Committee concluded by declaring that Mr. Child, who had acknowledged himself to be the author of the publication, was guilty of a contempt and breach of the privileges of the House, and that he should be required to make an apology to the House, such as should be to their acceptance. Before the hearing came on, Mr. Child expressed his wish that the evidence should be reported to the House; and it seems to

us, that he was fairly entitled to have it thus presented as an act of common justice ; but he was overruled on various grounds, and undoubtedly on such as appeared satisfactory to the majority. Mr. Child then entered upon his defence, and was replied to by Messrs. Whipple and Gardner, two of the Committee, who argued that the House had jurisdiction of the offence and ought to exercise it ; and it was finally voted that the publication was disrespectful to the House and unjust to the Speaker, and that Mr. Child, a member of the House and the author of the publication, deserved the censure of the House. This last branch of the vote was adopted on motion of Mr. Phillips of Salem, as an amendment to the report of the Committee, and probably relieved the question from the difficulty under which it was laboring, from an impression that it would be more easy to demand than obtain an apology. Against this decision of the House Mr. Child made his written Protest at length, with a request that it might be entered on the journal of the House ; and at the same time resigned his seat in that body. His Protest was laid on the table, and no subsequent order was taken upon it during the session.

Mr. Child's argument in his defence before the House is elaborate and long, extending through one hundred pages of the pamphlet. He complains that the Speaker gave him no information of errors in his statement, no opportunity for explanation or correction, no notice whatever that he felt aggrieved. He then enters at some length into the constitutional argument, and endeavours to establish the point that the House have no power to try him for the alleged offence, because no such power is given directly, or by necessary implication, by the Constitution of Massachusetts. This part of the defence is managed with ability, but it does not strike us as conclusive against the jurisdiction of the House. Then follow some pretty severe comments on the Report of the Committee, and the several cases which they adduced in support of the power of the House, which are in general too imperfect, and too slightly set forth, either by the Committee or in the record, to be of any great value as authorities to establish a precedent.

Much stress was laid upon the fact that the Speaker was in the act of addressing the House, as the Committee reported ; and the score of witnesses produced before them were

particularly examined as to this matter, and Mr. Child adduces, and fully comments on their testimony. But the substance of the offence was founded not on this, but on the charge of corrupt conduct on the part of the Speaker. This charge was clearly disproved by the evidence. Mr. Calhoun sustains justly a high character in the community, and we should require much stronger evidence than any adduced, to weaken our faith in his probity. The task of a speaker is always an arduous one, and is so in a manifold degree in the multitudinous House of Representatives in Massachusetts. Points of order are indeed frequently, as Mr. Child forcibly argues, of great importance in relation to the business of the House, and much injury might be done by an artful presiding officer in defeating valuable measures by his decisions on questions of order. Many of these questions are difficult, and are to be decided at the moment, and a speaker may err in his opinion, as a judge may in ruling a point of law; but it does not therefore follow that we should predicate corruption of such opinion. The remedy of the aggrieved is by appeal from the decision; and if the decision be wrong, and the appeal be not sustained, the majority are in fault. The point may be argued temperately in the public prints by any man, a member or not; but the high charge of corruption is one that should not be lightly made.

There is much in Mr. Child's remarks that we cannot approve either in the tone or spirit; a degree of acrimony whenever he alludes to the Speaker, that circumstances do not warrant, and that weakens the effect of the argument; much probably that a man of a less ardent temperament would have omitted. But we take pleasure in saying that his general argument is well managed, and contains much learning on the subject of contempts, and will be valuable to refer to for information on affairs of this nature. Mr. Child acted under a strong impression that he was the injured party,—of this we have no doubt,—for he possesses a character full of honesty and above all deception, as well as great firmness of purpose and perseverance in whatever he undertakes; and many of his public services have been of great value to this Commonwealth.

- ART. XII. — 1. *Syllabus de la Grammaire Italienne* par H. W. LONGFELLOW, Professeur de Langues Modernes à Bowdoin-College. A l'usage de ceux qui possèdent la Langue Française. Boston. Gray et Bowen. 1832. 12mo. pp. 104.
2. *Saggi de' Novellieri Italiani d'Ogni Secplo, tratti da' più celebri Scrittori, con brevi Notizie intorno alla Vita di Ciascheduno*, da H. W. LONGFELLOW, Professore di Lingue e Letterature Moderne. Boston. Presso Gray e Bowen. 1832. 12mo. pp. 168.

THIS little Grammar seems to us good in itself and well fitted for the purpose of teaching Italian in schools and colleges, in which it is desirable to prevent the pupil from forgetting what he has acquired of one foreign language, when he is introduced to the study of another. The object of this Grammar is merely to aid persons desirous to read the Italian language, and Mr. Longfellow has therefore judiciously omitted all the details and minute criticism which, however acceptable to the mature scholar who desires to penetrate into the niceties of a language, are only obstacles to the progress of the beginner, who wants a grammar merely to help him use his dictionary and text-book to advantage, and who in referring to it for relief in his numerous difficulties should be enabled to turn at once to the thing sought, instead of having to grope his way through what is to him little better than a wilderness of thorns and briars.

Mr. Longfellow at his outset plunges like an epic poet *in medias res*: "J'entrerai d'abord dans le détail des parties du discours, sans m'arrêter à donner des définitions également ennuyeuses et inutiles." A scholar who has learned Latin and French Mr. Longfellow probably conceives has had enough of such valuable information as "Words are articulate sounds significant of thought," and we think he is right. In this spirit of confining himself to what is of immediate practical importance the Grammar is written. It seems to us well arranged, and the information concisely and lucidly given. In fact, the French language, from its perspicuousness, is well fitted to convey grammar rules in an expressive manner. We think the book deserves to be recommended to those institutions in which Italian is taught as a branch of education.

The "Saggi de' Novellieri Italiani" is a collection of stories intended for the use of pupils commencing the study of Italian. The principal things required in such compends are, that the style should be easy, the matter interesting, and the moral tone innoxious. Mr. Longfellow has selected a number of easy and amusing stories from the multitude to be found in Italian literature, and the collection is well fitted to keep the pupil's attention awake and to facilitate his progress in the language. We should not look, indeed, to Italian *novelle* for lessons of morality, as they are principally tales of mischievous tricks, ridiculous folly, or trifling adventures, in which the frivolousness of the subject is compensated by the ease and liveliness of the narrative; but we have read the greater part of this collection without finding any thing offensive.

ART. XIII. — *A Comparative View of the Italian and Spanish Languages, or an Easy Method of Learning the Spanish Tongue for those who are already acquainted with the Italian.* By PIETRO BACHI, Instructor in Harvard University. Boston. Cottons & Barnard. 1832. 12mo. pp. 130.

MR. BACHI'S object in this little compend is to convince those who have made themselves masters of either of the two languages mentioned in the title, how little additional labor is required to render them familiar with the other. The mode which he has adopted, is to present, in parallel columns, and as simply as possible, those particulars to which the student's attention is necessarily first turned in learning either language, viz. the rules of pronunciation, the forms and inflections of the articles, nouns, pronouns, adjectives, and verbs, the rules for the genders and the degrees of comparison, the forms of the cardinal and ordinal numbers, of the augmentatives and diminutives &c. He exhibits the bare skeletons of the two languages, to show at a glance the essential similarity in their structure. The plan seems to us a very good one. It can hardly fail to satisfy the student who has acquired one of the languages, that he need only learn a few variations of form, to be master in a considerable degree of the other. It must also tend to diminish the

tediousness which usually attends the study of the elements of a language, as it converts an exercise of memory into a study of relations, and excites the student's curiosity to ascertain the reasons both of the general similarity and the particular diversities which he finds. We all know how interesting it is to meet in a foreign language with resemblances to our own or to any other with which we have a considerable acquaintance. Now Mr. Bachi's plan will continually afford this gratification to the pupil, and, by associating whatever he acquires with something already known, will tend to fix both firmly in his mind. This process of association in fact is always applied in learning foreign languages, and the advantage of Mr. Bachi's plan is that it enables us to do easily and systematically what we should otherwise do laboriously and imperfectly, since it shows us at a glance those principles of connexion which we should else have had to acquire by a process of induction, attended with considerable trouble and liability to error. The habit of studying relations, of distinguishing the root from the derivative, the general from the particular, the essential from the accidental, must accustom the student to generalize and discriminate, and give him in some degree the spirit of a scientific philologist. This plan has the further advantage of showing the student at a glance the comparative richness and deficiencies of the different idioms in many particulars.

It is of course unnecessary for us to say any thing of the treasures of Spanish and Italian literature, and the peculiar and growing importance of the Spanish language to the people of this country, as a means of political and commercial intercourse with the southern nations of our continent. The advantages of knowing the languages are obvious, and Mr. Bachi's grammar will contribute we think to render the acquisition of them easy and pleasant.

ART. XIV. — *Tract on Comets, and particularly on the Comet that is to intersect the Earth's Path in October, 1832*, by M. ARAGO, attached to the Royal Observatory at Paris. Translated from the French, by JOHN FARRAR. Boston. Hilliard, Gray, & Co. 1832. 12mo. pp. 89.

AGREEABLY to the intimation we gave in our last number we now resume the subject of comets for the purpose of placing before our readers a few of the more striking particulars contained in the tract before us.

Although some of the ancient astronomers seemed to have attained to just notions as to the nature of comets, the prevailing opinion even until within two centuries, has been, that they are temporary fires kindled up in our own atmosphere; in other words, that they are meteors having the same origin, and the same transient existence as the shooting stars that flit across the sky at all times and in all directions. It seems surprising to us of the present day, that it did not occur to the ancient astronomers, that comets may be seen over a large portion of the earth's surface at the same time, and apparently in the same situation, that is, in the neighbourhood of the same star, whereas meteors, like balloons and rockets, are visible only throughout a very limited extent of country, and are seen in opposite directions by persons situated but one or two days' journey asunder. As a comet is observed near the same star by the inhabitants of half the globe at once, we infer that it is not in our atmosphere, that it is at a great distance from the earth, and that it belongs to the region of the planets. By noting its change of place among the stars we find, moreover, that it moves in a regular orbit like the planets; that, while the planets describe ovals which differ very little from circles, comets move also in oval paths, but such as are very much elongated or have their length greatly exceeding their breadth. The planet which we inhabit, for instance, in describing its oval orbit varies its distance from the sun only about three millions of miles, or one thirtieth part, while the present comet varies its distance from the sun in the course of its revolution five hundred millions of miles, while its mean distance is a little more than three hundred millions;

and the comet that is to return in 1835 alters its distance more than three billions of miles. It will readily be seen therefore how it happens, that comets are visible only during a short period compared with their whole revolution.

Another circumstance which distinguishes a comet from a planet, is a nebulous or hairy appearance, surrounding the central part or nucleus like an atmosphere, faintly illuminated, of great extent, and generally branching off into a tail in a direction for the most part opposite or nearly opposite to the sun.

There are several particulars called *elements*, that determine the form and position of a comet's orbit, by which a comet is identified on its return. After having carefully observed its position in the heavens at several different times, we are able to calculate its nearest approach to the sun, called its *perihelion distance*, and the position of this point of nearest approach, denominated the *longitude of the perihelion*. The same observations will enable us also to find the angle which the plane of the orbit makes with that of the ecliptic, or the *inclination*, and the position of the line of intersection of the two planes, or what is called the *longitude of the node*. When we know thus the form and position of the orbit of any comet, and the direction in which it moves, if at a subsequent time a comet appears having the same elements, that is, the same perihelion distance, the position also of this line being the same, having moreover an orbit of the same inclination and cutting the ecliptic at the same points, the motion at the same time being in the same direction, we infer that the two appearances belong to one and the same comet, and that the interval between the two passages through the perihelion, is the time employed by the comet to complete its revolution round the sun.

Out of about one hundred and thirty comets whose elements have been calculated, there are only three which have been identified in this way, and whose whole course through the heavens is ascertained. The first of these was pointed out by Halley. It has a period of about seventy-six years. It appeared according to the prediction in 1759, and may be confidently expected again in 1835. The second is that of Encke, whose period is a little more than three years, and which has returned three times since 1819, when the duration of its revolution was made known. Its fourth return was

to have taken place several months ago, but not under favorable circumstances for observation. The Cape of Good Hope and New Holland will no doubt furnish us ere long with a detailed account of every particular worthy of note of a comet already so familiar to us.

The last comet whose revolution is determined is generally known by the name of Biela's. It has also been called Clausen and Gambart's. It was discovered by Biela, February 27, 1826. Clausen and Gambart have the merit of announcing the time of its revolution. They found it to be nearly seven years. This is the comet that we are now looking for, whose first return since its period has been recognised, is predicted to take place this present autumn. It is expected to reach its perihelion, or point of nearest approach to the sun, on the 28th of November. This comet is rendered particularly interesting on account of its crossing the earth's track. It will not merely pass through the plane in which the earth's orbit is situated; it will actually cut the curve described by the earth in its annual progress round the sun. It will occupy a part of the identical space which the earth fills a month afterward. The following are the results of the most elaborate and minute calculations by the ablest astronomers, as contained in the pamphlet before us.

"The comet of six years and three quarters will cross the plane of the ecliptic, that is, the plane in which the earth moves, on the 29th of October, 1832, before midnight.

"The earth, during its annual course round the sun, never leaves the plane of the ecliptic; therefore it is only somewhere in this plane that a comet could strike it; of course, if we had any thing to fear from the comet of 1832, the danger would be on the 29th of October, before midnight.

"Now let us inquire whether the point, at which the comet will cross the plane of the ecliptic, is near the path that the earth describes; for, in order that there may be a meeting between the two bodies, this is as necessary a condition as the other.

"Upon this point it is proved, by calculation, that the passage of the comet through the plane of the ecliptic will be a little within our orbit, and at a distance from it equal to two and a third of the earth's diameters, or 18,500 miles. It is possible that this distance, already so small, may disappear entirely, if we suppose certain small variations in the elements, given by Damoiseau, which it is difficult to answer for.

"Let us, however, take two diameters and a third, as the real distance; we must remember that this has reference to the centre of the comet, and we must ascertain whether its size is large enough for any part of it to extend to the earth's orbit.

"When this body appeared in 1805, the observations made by the celebrated M. Olbers, of Bremen, gave for the semidiameter of the comet two diameters and two thirds of the earth. From this number, compared with the preceding, it plainly results, that on *the 29th of next October*, A PORTION OF THE EARTH'S ORBIT *will be comprehended within the nebulous atmosphere of the comet.*

"There remains now but one more question to answer; it is this: At the time when the comet will be so very near our orbit, that the nebulous or hairy atmosphere will cover some part of it, *where will the earth itself be?*

"I have already said that the passage of the comet very near to a certain part of the earth's orbit, will take place on the 29th of October, before midnight; well, the earth will not arrive *at that same point*, until the 30th of November in the morning, that is, *more than a month afterwards!* Now we have only to call to mind that the average rate at which the earth moves in its orbit is 1620 thousand miles per day, and a very simple calculation will show, that

"THE COMET OF SIX YEARS AND THREE QUARTERS WILL, DURING ITS APPEARANCE IN 1832, BE ALWAYS MORE THAN FORTYEIGHT MILLIONS OF MILES FROM THE EARTH.

"In order to ascertain the least distance of the comet from the earth in its future returns, the same calculations must be made. If in this year, 1832, instead of passing the plane of the ecliptic on the night of the 29th of October, it reached that point on the morning of the 30th of November, it would certainly mingle its atmosphere with ours, and perhaps it would strike us. But I hasten to assure the public, that a mistake of a month, in determining the time when a comet reaches its node, is impossible. I have confined myself in this account to what relates to the body of the comet, because no trace of any tail has ever been seen to accompany it in its former visits." pp. 22 - 24.

Encke's comet by its short period and its repeated returns is supposed to have revealed an important secret, namely, the existence of a resisting medium pervading the celestial spaces. This curious result and its influence in modifying the conclusions above given are thus developed by our author.

"In calculating the positions that the comet of a short period would successively occupy in 1822, 1825, and 1829, M. Encke kept an exact account of every possible disturbance occasioned by the influence of the planets. Nevertheless, each time it appeared, there was a discrepancy between the results of calculation and those of the observation. This was always of the same kind, and evidently greater than could arise from any error of measurement.

"The cause of this discrepancy could be nothing but the resistance of the ether. Indeed, it appeared that the only two elements of the orbit, which from one revolution to another experienced no change, were the inclination and the position of the node; and we know very well, that the resistance of a gas, however much it might diminish the velocity of a body, could not turn it either to the right or left; this body would still continue to move in the same plane.

"The effect of the resistance of the ether upon the whole duration of the revolution of the comet of a short period round the sun, amounted to about two days, according to the calculations of M. Encke. If this influence upon the comet of six years and three quarters were of the same nature, it could not materially affect the results we have obtained respecting the least distance of the comet from the earth in 1832. I might therefore have dispensed with noticing this new kind of perturbation; but I resolved to mention it, because some troubled spirits have seized upon the idea of this resistance of the ether, of which but little has been hitherto known, as a reason why the time of the comet's passing through the plane of the ecliptic, could not be properly ascertained, and also as a sufficient ground for not placing implicit confidence in the declaration of astronomers, that no danger need be apprehended from the comet of 1832. Here then I shall state the objection in all its force:

"The comet, *moving in an empty space*, would arrive at a certain point of the earth's orbit thirty-one days *before* our globe; but the natural effect of any resisting medium is to *retard* it; the comet, therefore, *moving in ether*, will arrive at the point in question *later* than the time assigned; thus it may fairly be affirmed, that its least distance from the earth will be less than that given by the calculations. It is true, say these reasoners, we do not know how much less; but is it impossible that in certain physical conditions of the comet, its course should be retarded one month in its whole revolution? Astronomers have told us only what is probable; it still remains to be proved, that in 1832 the earth will not receive a violent shock!

"The difficulty here presented may appear to some a very serious one, and I should fail of the end proposed in this tract, if I did not clear it up. Happily a few words will suffice to show, that it is founded on an erroneous statement.

"We will now consider the comet in its own orbit, and allow that the position assigned to it by the calculations, founded on the supposition that it moves in empty space, and that in which it is actually seen, do not coincide. Now, let me ask, in what way does this difference show itself? According to the objection, the real position ought to be less advanced than the calculated one. Instead of that it is exactly the reverse. At each return of the comet of a short period in 1822, 1825, and 1829, the real appearance of that body has always occurred *sooner* than the calculated appearance.

"There is, then, no reason to suppose that the passage of the comet of 1832, through the plane of the ecliptic, will occur *later* than the first calculations fixed it. If its action is analogous to that of the comet of a short period, its passage through the node must take place sooner, and its least possible distance from the earth will be proportionably increased.

"This single remark is sufficient to do away with the objection I proposed to combat. It only remains to be shown, how the accelerated motion of the comet can be the effect of a resisting medium.

"I allow that, at the first glance, such an acceleration appears strange enough; for what resists generally retards; but this difficulty will vanish as soon as we consider, that the immediate effect of a resisting medium, upon a body travelling in it, is to diminish its velocity in the direction of a tangent, or what is the same thing, it lessens what is called its centrifugal force, which is exactly the same thing as if the attraction of the sun were increased. The effect of this force is to bring the body nearer to the sun and to lessen the dimensions of its original orbit. Now it is well known, for it is equally proved by observation and theory, that the heavenly bodies move quicker according as they approach nearer the sun. Their velocities and distances are found to be intimately connected together by one of the three great astronomical principles, known by the name of the *laws of Kepler*.

"On reflection it will be perceived, that the difficulty under consideration arises from the belief, which every one seems to have, that the orbit of a comet must be unchangeable. It is true, that a body restricted to a certain curve by an original impulse, would move faster in empty space, than in a gaseous medium. But such a body cannot be compared to a comet;

for this no sooner experiences a resistance than it changes its course; no wonder therefore that it arrives sooner. We are here reminded of a remark of Fontenelle, that when a thing can happen in two ways, it generally occurs in that which at first sight appears the least probable." pp. 25 - 28.

The physical constitution of comets has of late attracted particular attention; and it would seem that in a number of instances they are without any solid, compact nucleus. Very small stars are seen, not only through the atmosphere or envelope, but through the centre. It has been supposed that the heat to which they are exposed, as they approach their perihelion, has been sufficient to convert their whole substance into vapor.

Where there are indications of a solid globe at the centre, it is for the most part very small, as may be seen by the following table:

Comet of . . .	1798	26 miles in diameter.
" . . .	1805	29 " "
" . . .	1799	373 " "
" . . .	1807	537 " "
First comet of	1811	538 " "
Second comet of	1811	2617 " "

While the nucleus is thus of small extent compared with that of the planets, the nebulous envelope is of enormous dimensions. The most accurate estimates for the thickness of this gaseous mass vary in different comets from twenty to thirty thousand miles.

The variation in the same comet is a circumstance that merits particular attention as will be seen by the following statement:

"Wholly occupied with the motions of comets, and carried away perhaps by favorite theories, modern astronomers have neglected one observation, worthy of note, as to the manner in which the envelopes of comets vary in size. Hevelius, who was bound to no system, stated distinctly, that the real diameter of the envelope increased according as the comet became more distant from the sun. Pingré observed this also, but hardly dared to avow it; for in his work, Vol. II. p. 193, this important fact is thrown out, as if by chance, in a paragraph upon the variations of the tail.

"I certainly should not undertake to justify such hesitation,

if, since the time of Pingré, experience had established the point beyond all doubt. But, considering that the measurements are rather difficult in their nature, one may surely be allowed to doubt whether a gaseous mass would dilate in proportion to its distance from the sun, when, advancing into colder regions, it ought, according to all we know of the properties of heat, to become considerably condensed.

"Thanks to the comet of a short period, we may now place the observation of Hevelius among the best established facts of science. The following table shows the variations in the real diameter of the nebulous matter of this comet in 1828.

Dates.	Distances of the Comet from the Sun.	Real Diameter of the nebulous matter in semi-diameters of the Earth.
October 28	1,4617	79,4
November 7	1,3217	64,8
November 30	0,9668	29,8
December 7	0,8473	19,9
December 14	0,7285	11,3
December 24	0,5419	3,1

"(To understand the figures in the second column of this table, it must be remembered, that the mean distance of the earth from the sun is considered as 1.)

"It follows from the results before us, that on the twenty-eighth of October, the comet was nearly three times as far from the sun as on the twenty-fourth of December, and that, nevertheless, at the former of these two periods the real diameter of the nebulous matter was about twenty-five times as great as at the latter! Or we may put the same thing into other words, by saying that, in the interim between the twenty-eighth of October and the twenty-fourth of December, the size or volume of the comet was reduced to a *sixteen thousandth* part of its former size; the least bulk thus corresponds to the least distance of the comet from the sun." pp. 43, 44.

The tail of a comet seems to be of the same nature with the envelope. It has erroneously been regarded as the essential and distinguishing feature of this class of heavenly bodies. Several comets have appeared which have exhibited no trace of this appendage, among which the present comet is to be reckoned. We regret that a phenomenon so singular and so calculated to excite curiosity, remains unexplained. It is as great a mystery to us as it was to the antediluvian astronomers. Notwithstanding the flood of light that modern researches have thrown upon the motions of the

heavenly bodies, we gaze upon the splendid train with which most comets are attended with all the amazement and stupid wonder of children and savages. Such being the state of uncertainty and doubt in which this attractive subject is involved, the following brief remarks of our author seem to us highly pertinent and judicious. "The public has, I allow, a right to expect some particulars as to the nature of the light of comets, some account of the causes which produce their tails, which modify them in so many different ways, which give rise to the system of concentric envelopes around the nucleus, &c. But I must frankly say, that in the actual state of the science I have nothing to lay before the reader but mere romances, gratuitous hypotheses, and schemes having no real foundation."

"It would require a volume to give even a faint idea of the great variety of theories by which astronomers and philosophers have endeavoured to explain the tails of comets. The least objectionable of these theories is that which supposes the lightest particles of the nebulous matter to be detached and carried off by the force of the sun's rays. Accordingly the tail would always be directly opposite to the sun, as Apien would have it; but this rule does not apply universally, for the tail is sometimes perpendicular to the line drawn from the sun to the nucleus; it is also occasionally very much curved; there are sometimes six tails at once; these multiplied tails appear and disappear in a few days, and their direction is so various that, in certain positions of the earth, the comet of 1823 appeared for several days to have one tail extended towards the sun,* and another in the opposite direction. There are indications in these multiplied tails of a very rapid rotatory motion, which must soon occasion their entire dispersion in space. There are comets, too, the nebulous matter of which seems very light, and which nevertheless have no tails at all. The resistance of the ether, which has hitherto been overlooked, may explain some of these difficulties; but it is to be feared that the complete solution of so intricate a problem will long remain a desideratum." p. 45.

* Struve remarks, in the case of Encke's comet, at the time of its third return in 1828, "that the axis or direction of the tail made with the solar radius vector a considerable angle which varied from 100° to 154° , so that the tail of the comet was directed *toward* the sun rather than *from* it." He remarks, moreover, that "its form in 1828 was no longer the same which it exhibited in 1825."

The very rare occurrence of the intersection of a comet's path with that of the earth, already spoken of as appertaining to the present comet, has led to an examination of the nearest approach to which we are liable from other bodies of this class. There is no other known orbit that is so situated as to render a collision possible without some change either in the form or in the position of the orbit. We have already mentioned that the path described by the present comet, taking into consideration simply the line traced by the centre of the nucleus or head, passes within 18,500 miles of the ecliptic or line described by the centre of the earth. The comet of 1680 passed within 450,000 * miles of the earth's orbit, that is, within about twice the distance of the moon. The nearest approach of the comet of 1684 is estimated at about 850,000 miles; those of 1742, 1779, 1805, come within

* In Rees's Cyclopædia, under the article *Comet*, this distance is stated to be 4000 instead of 400,000. The profound Mrs. Somerville in her excellent Introduction to the "*Mechanism of the Heavens*," has fallen into a similar mistake. The nearest distance of the comet of 1770 is stated (page lx.) to be "80,000 miles," instead of 800,000 French leagues.

Speaking of erroneous statements relating to comets, we are reminded of a most unaccountable series of blunders, that, having found their way into the "*Preliminary Treatise*," published by the "*Society for the Diffusion of Useful Knowledge*," have circulated far and wide, being associated with a great mass of most useful and interesting information. "*But the comets*," says the author of this discourse, "*give light ALWAYS of themselves, being apparently VAST bodies heated red-hot by coming in their course far nearer the sun than the NEAREST of the planets ever do. Their motion is much more rapid than that of the planets; they both approach the sun much nearer, retreat from him to much greater distances, and TAKE MUCH LONGER TIME in going round him than any of the planets ever do.*" The author in these broad assertions seems to have had in his mind only one single case, namely, that of the comet of 1680. We do not certainly know whether they shine by their own light or not. What evidence we have is rather against the position here assumed, that they are self-luminous. That their light is the effect of intense heat is a strange supposition, when we bear in mind that in some instances at least, so far as we can judge, they are mere collections of vapor, that they are often seen at a much greater distance from the sun than the earth is, even before they have passed their perihelion. The comet of 1729, at its perihelion or least distance from the sun was more than four times the distance of the earth, that of 1747 had a perihelion distance equal to nearly two and a third of the earth's distance, and there are more than twenty whose perihelion distance exceeds the mean distance of the earth.

1,200,000, 1,300,000, 1,028,000 miles respectively. The comet which has actually approached the nearest to us of any, is that of 1770, whose orbit has since been entirely changed by the attraction of Jupiter. Its shortest distance *from the earth* was a little less than a million and a half of miles, or about six times the mean distance of the Moon. The following remarkable results relating to this comet are from the highest authority.

"Laplace discovered that the action of the earth upon it increased the length of its revolution by more than two days. Mathematically speaking, the reaction of this comet upon the earth ought to have increased the length of the earth's revolution round the sun. If we suppose the mass of the comet to be equal to that of the earth, the time thus added to the year would be, by strict calculation, two hours and fifty-three minutes. Now it is well known that in 1770 the length of the year did not vary one second; we have taken, then, for the ground of our calculations a very exaggerated statement, in supposing the mass of this comet to be equal to that of the earth; and we may fairly infer from the above fact, that the mass or quantity of matter in the comet is not one five-thousandth part of that of the earth. This result explains how it was possible for the comet of 1770 to traverse twice the system of Jupiter's satellites without producing the slightest disturbance." p. 46.

We have glanced at the subjects that seemed to us to be most deserving of attention at the present time. For other topics of considerable interest, which are fully and ably treated, we must refer our readers to the pamphlet itself.

LIST OF NEW BOOKS

FOR SEPTEMBER, 1832.

- Thompson & Homans, Washington.*—The American Pharos; or Light-House Guide; founded on Official Reports received at the Treasury Department; also a General View of the Coast from the St. Lawrence to the Saline, &c. By Robert Mills, P. A. Engineer and Architect, &c.
- Armstrong & Plaskitt, Baltimore.*—Sermons by the Rev. James Saurin, from the French by the Rev. Robert Robertson, Rev. Hay Hunter, D. D., and Rev. Joseph Sutcliffe. With Additional Sermons revised and corrected, by the Rev. Samuel Burder, &c. 2 vols. 8vo.
- Carey & Lea, Philadelphia.*—Arlington, a Novel. By the Author of "Granby." 2 vols. 12mo.
- Two Years and a Half in the Navy; or Journal of a Cruise in the Mediterranean and Levant, on board of the United States Frigate Constellation, in the Years 1829, 1830, and 1831. By E. C. Wines. 2 vols. 12mo.
- Remarks on the Statistics and Political Institutions of the United States; with some Observations on the Ecclesiastical System of America, her Sources of Revenue, &c. By William G. Ousley, Esq. 8vo.
- History of Spain and Portugal. Vol. 1. 12mo.
- Elizabeth Bennett, or Pride and Prejudice; a Novel. In 2 vols. By the Author of "Sense and Sensibility."
- Key, Meilke, & Biddle, Philadelphia.*—The Young Lady's Own Book; a Manual of Intellectual Improvement, &c. By the Author of the "Young Man's Own Book." 24mo.
- T. Desilver, Jun., Philadelphia.*—Reports of Cases Argued and Adjudged in the Supreme Court of the United States, January Term, 1832. By Richard Peters, Counsellor at Law, and Reporter, &c. Vol. 6. 8vo.
- J. & J. Harper, New York.*—Theological Library. Vol. 2. The Consistency of the whole System of Divine Revelation with itself and with Human Reason. By Philip Nicholas Shuttlesworth, D. D. 18mo.
- Dreams and Reveries of a Quiet Man; consisting of the Little Genius and Other Essays. By one of the Editors of the "New York Mirror." 2 vols. 12mo.
- Novels and Tales, by Maria Edgeworth. In 9 vols. Vol. 1. 12mo.
- Daniel Appleton, New York.*—Thoughts on Affliction. By the Rev. A. S. Thelwall, A. M., Trinity College, Cambridge. To which is added Bereaved Parents Consoled, by John Thornton. Also Sacred Poetry, carefully selected, by a Clergyman. 24mo.
- Collins & Hannay, New York.*—Parley's Stories about New York City and late, with Plates.

- Durrie & Peck, New Haven.**—History of the United States; to which is prefixed a Brief Historical Account of our English Ancestors from the Dispersion at Babel, to their Emigration to America, and of the Conquest of South America by the Spaniards. By Noah Webster, LL. D.
- Carter, Hendee, & Co., Boston.**—The Farmer's Own Book; or Family Receipts for the Husbandman and Housewife, &c.; with Rules for Keeping Farmers' Accounts. By H. L. Barnum. 12mo.
- Cases of Cholera collected at Paris in the Month of April, 1832, in the Ward of MM. Andral and Louis at the Hospital La Pitié. By James Jackson, Jr. 8vo.
- A System of Universal Geography, Popular and Scientific; comprising a Physical, Political, and Statistical Account of the World in its various Divisions, &c. By S. G. Goodrich. 8vo.
- Cheering Views of Man and Providence, drawn from a Consideration of the Origin, Uses, and Remedies of Evil. By Warren Burton.
- La Bagatelle; intended to introduce very Young Children to some Knowledge of the French Language.
- The Life of Samuel Johnson, LL. D. Including a Journal of a Tour to the Hebrides. By James Boswell, Esq. A new edition, with various Additions and Notes, by John Wilson Croker, LL. D., F. R. S. 2 vols. 8vo.
- B. H. Greene, Boston.**—Delusions; an Analysis of the Book of Mormon, &c. By Alexander Campbell. With Prefatory Remarks, by Joshua V. Himes. 8vo.
- James Loring, Boston.**—Incidents in the Life of Matthew Hale, &c. By Gilbert Burnett, Author of the "History of the Reformation." With Baxter's Recollections of Hale. Revised American edition. 18mo.
- J. S. Simpkins, Boston.**—The Christian Monitor. New Series. Vol. 1. The Nature and Design of the Christian Church, by the Rev. Joseph Lathrop, D. D., &c. With Remarks on the Lord's Supper, by Another Hand.
- William Hyde & Co., Boston.**—The American Biographical and Historical Dictionary, containing an Account of the Lives, Characters, and Writings of the most Eminent Persons in North America, and a Summary of the History of the Several Colonies, and of the United States. By William Allen, D. D., President of Bowdoin College. 2d edition. 8vo.
- Munroe & Francis, Boston.**—The Infant Teacher's Assistant, for the Use of Schools and Private Families, &c. By T. Bilby and R. B. Ridgway. Revised, &c. by the American Editor.
- Pierce & Parker, Boston.**—Remarks on Unitarian Belief; with a Letter to a Unitarian Friend on the Lord's Supper. By Nehemiah Adams, Pastor of the First Church in Cambridge. 18mo.
- Gray & Bowen, Boston.**—A Dictionary of Biography, comprising the most Eminent Characters of all Ages, &c. First American edition, with additional corrections and improvements, &c. 8vo.
- Lilly & Wait, Boston.**—Library of Entertaining Knowledge. Part 30. Vegetable Substances used for the Food of Man.
- A Treatise on Breeding, Rearing, and Fattening all kinds of Poultry, Cows, Swine, and other Domestic Animals. By B. Moubay, Esq. Adapted to the Soil, Climate, &c., in the United States. By Thomas G. Fessenden, Esq., Editor of the New England Farmer. 12mo.

- Hilliard, Gray, & Co. Boston.** — The American Harp; being a Collection of New and Original Church Music, under the Control of the Musical Professional Society in Boston. Arranged and composed by Charles Zeuner, &c.
- Marsh, Capen, & Lyon, Boston.** — A Tour through College; containing some Remarks from Experience on the Nature of the Learning there acquired, &c. By A. M., Esq. 8vo.
- History of the Town of Plymouth from its First Settlement in 1620, to the Year 1832. By James Thacher M. D., &c. 12mo.
- Allen & Co., Boston.** — The Massachusetts Family Almanac; or the Merchant's and Farmer's Calendar, &c., for the Year, 1833, &c.
- Cottons & Barnard, Boston.** — A Comparative View of the Italian and Spanish Languages; or an Easy Method of Learning the Spanish Tongue, for those who are already acquainted with the Italian. By Pietro Bachi. 12mo.
- Clapp & Hull, Boston.** — *In Press.* Familiar Lessons on Mineralogy and Geology, including Domestic Sketches. By the Author of "The Pastime of Learning." In 2 vols. 12mo.
- Brown, Shattuck, & Co., Cambridge.** — M. Tullii Ciceronis de Claris Oratoribus Liber, qui dicitur Brutus. 18mo.
- Flagg & Gould, Andover.** — A Commentary on the Epistle to the Romans; with a Translation and various Excursus. By Moses Stuart, Professor of Sacred Literature in the Theological Seminary at Andover. 8vo.
- Chauncy Goodrich, Burlington, Vermont.** — Sermons upon the Ministry, Worship, and Doctrines of the Protestant Episcopal Church. By G. T. Chapman, D. D., late Rector of Christ's Church, Lexington. 2d edition. 12mo.
- Glazier, Masters, & Co., Hallowell.** — The History of the State of Maine, from its first Discovery to the Separation, A. D. 1820, inclusive. By William D. Williamson. 2 vols. 8vo.